A Presidential Address
ON
THE HEART OF THE CHILD.

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BY D. B. LEES, M.A., M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET; PHYSICIAN TO ST. MARY'S HOSPITAL; EXAMINER IN MEDICINE, UNIVERSITY OF CAMBRIDGE.

GENTLEMEN,—The laws of the Harveian Society of London require that at the conclusion of his year of office the President shall deliver an address. I ask your attention, therefore, for a few moments to a short study of a subject too much neglected—the heart of the child.

"The child's heart," said Dr. Sturges, in the Lumleian Lectures for 1894,[1] "holds as many secrets as the man's and is even more deceiving." If this be so it needs the more careful study and (even more than the heart of the adult) demands accurate investigation and patient observation. Yet who thinks it worth while to spend much time in examining the heart of a child? Does every medical man investigate the condition of this organ in each child patient as carefully as he does in an adult? In how many instances does he even recognise that it is his duty to examine it? Doubtless he feels the child's pulse, but does he bestow much care upon the investigation of the heart itself? Does he always remember that heart disease is frequent in early life, that its beginnings may easily be overlooked unless he is careful, and that his neglect to ascertain the exact condition may be disastrous to the whole of the child's future? Think of the amount of work which the child's heart will have to undertake. Calculating at the rate of one beat per second, which is below the truth, it will have to contract no less than 31,536,000 times every year. If it survive for 50 years it will have performed the enormous number of 1,576,000,000 of beats. And if we adopt the estimate of Dr. Leonard Hill in the second volume of Schäfer's "Physiology," that the human heart performs work to the amount of 1000 kilogramme-metres every hour, we find that in a year its total work will be 8,760,000 kilogramme-metres, and in 50 years 438,000,000 kilogramme-metres. Translating this into English measures we find that during these 50 years the heart will have to lift 1,500,000 tons to a height of one foot. That is the work which lies before the child's heart if it survive through a life of 50 years. How can it possibly accomplish the task unless it is thoroughly sound and well? Remember, also, that the child's heart is an organ incompletely developed. It has to grow to its full size and to minister to a growing body. Any disease, therefore, which damages it not only hinders its future work but impedes its development and the development of the whole organism. From this point of view the integrity of the child's heart is even more important than that of the man's.

The child's heart can be examined by the same methods as are employed for that of an adult. In some respects it is even more accessible, for in the child there is no excess of adipose tissue, no great muscular development, no large pendulous breasts, and rarely any emphysema. If the practitioner is rough and awkward he may make difficulties for himself by exciting the child's fears, but anyone who knows how to deal with children can usually examine the heart of even the most "spoiled" child with accuracy. Impatient words, an ungenial aspect, hasty measures, or cold hands may make a young child cry and resist with all its might, but pleasant speech, a kindly manner, gentle ways, and warm hands will usually calm the most nervous child and allow of a complete examination, provided that the undressing is done by the mother or the nurse and that she stands by the bed while the examination is made.

The chest being thus exposed to view we notice at once whether there is any thoracic deformity or any prominence of the præcordial region and the position of any visible cardiac impulse. Having noted this, the first idea of most practitioners is to pull out a terrible-looking instrument called a stethoscope, which probably appears to the child a sort of pistol, and doubtless is going to hurt him not a little. This early recourse to the stethoscope is a great mistake for more reasons than one. Keep it in your pocket to the last. A child is accustomed to being handled; you may use your hands to examine him as much as you like if they are only warm and gentle. He will not object at all to percussion if it be done very lightly and with the fingers only, but he will not tolerate the forcible hammering which some medical men call percussion, and those illusory instruments known as plexímeters will certainly make him cry. Fortunately, what the child allows is exactly what the physician ought to use, the lightest possible percussion. It is this, and not the heavy thumping, which is to tell you the precise size of his heart. But first warm your hand and lay it gently over the præcordial region that you may feel the cardiac impulse and ascertain its strength and whether it is localised or diffused. This gives you information as to the strength of the left ventricle. Then shift your hand gently to the epigastrium and notice whether any impulse of the right ventricle is to be felt there; if so, either there is some congenital malformation or there is some disease of the lungs or left heart. Slide the hand further to the hepatic region and see whether it meets the resistance of an enlarged liver, and try very gently to feel its edge. A single gentle tap on a finger below the costal margin will confirm or correct your observation.

Next proceed to percussion, but begin with a clear idea of the object of this measure and the way in which it is to be carried out. What is the object of percussion of the heart? To ascertain the superficial cardiac dulness, say the text-books. But what is the value of this result when you have obtained it? Almost nothing, from the cardiac point of view, though it may give valuable information about the left lung. What we really want to know and what can quite easily be ascertained is the exact size of the heart. We can, indeed, determine little or nothing by physical examination about the size of the left auricle, and we can form only an approximate opinion of the size of the right ventricle. But the size of the left ventricle and that of the right auricle can usually be ascertained with very considerable accuracy. Let your plexímeter be the terminal phalanx of a finger of your left hand. Let this phalanx be pressed somewhat firmly, yet very gently, on the spot to be percussed, and let no other part of your hand touch the chest-wall. So you will avoid the conduction of resonance from elsewhere which is a fruitful source of fallacy. First select a spot in the mid-axilla and percuss here with the lightest possible stroke; then gradually shift your percussed finger towards the sternum and you will easily recognise the change of note when the border of the heart is reached. For though the left lung partly overlaps the heart it is only by a thin layer, and the margin of the heart is thick and airless and does not require what is called "deep" or heavy percussion to recognise it. Indeed, such percussion often defeats itself, for it introduces pulmonary and gastric resonance from a distance, especially if the whole of the percussed finger be applied to the chest-wall. Expect to find the cardiac margin a little to the left of the position of the impulse, for though it is usual to speak of the "apex-beat," it is not the extremity of the heart which strikes the chest-wall, but a spot on the right ventricle at some little distance from that extremity. The left border of the cardiac dulness in health extends a little to the left of the position of the impulse; when the heart is dilated this difference may amount to a finger-breadth or even more. (If anyone objects to the term "finger-breadth" as unscientific he may say instead "two centimetres," but he does not thereby make the measure more accurate; he only introduces a false idea of mathematical precision.) Next determine whether the dulness extends to the left of the nipple itself, and if so to what amount in the nipple-acromial line. Two points on the border of the left ventricle having been thus determined the line connecting them should correspond to this border, and this can easily be verified by holding the percussed finger parallel to this line. The difference in tone to the left and to the right of this line will then be obvious at once. Next determine the size of the right auricle. Very few percussors pay the least attention to this structure and many seem to be unaware of the fact that the dulness due to it may always be detected, even in the normal heart, in the fourth right intercostal space. The third space ought to be resonant quite up to

[1] THE LANCET, March 10th (p. 583), 17th (p. 653), and 24th (p. 733), 1894.

the sternum, and in the fifth space the hepatic dulness alters the note, but in the fourth space the dulness of the right auricle is present for about one finger-breadth in an adult and rather less in the child. When the auricle is dilated it may extend to two finger-breadths in the fourth space and from a half to one finger-breadth in the third. When the dilatation is very great it may amount to three finger-breadths in the fourth space, one and a half in the third, and may even be detected in the second. The accurate determination of the size of the right auricle is a matter of the greatest importance and often indicates at once the necessity for leeches to relieve distension. Yet there is no part of physical examination which is so universally and systematically neglected and the patient is too often allowed to suffer cardiac distress when he might be relieved in a few minutes. The suffering due to a distended bladder a medical man would promptly relieve, but that due to a distended right heart is allowed to remain because his percussion is not accurate and bleeding is out of fashion. Recently when I advised a practitioner in charge of a case of pneumonia to try the effect of a few leeches he replied that he would "see if they could be obtained in the neighbourhood." Evidently the distended right hearts of this gentleman's patients got no relief.

You have now determined the most important facts about the heart, its size and strength, and your stethoscope is still in your pocket. But by this time you and the child are on good terms and you may quietly produce it without alarming him. It should be flexible and binaural; the rigidity of the old wooden instrument makes its use difficult in the child and you are apt to press too heavily with it. Avoid the cumbersome instruments with a spring; all that you want is a small and simple ivory cup as a chest-piece with two rubber tubes from it to two ivory ear-pieces. If these fit the ears properly there is no need for any spring. This more simple instrument is better for your purpose, for it makes no artificial noises of its own and it is less alarming to the child. If the latter shows any sign of fear it may be well to let him have it in his hands for a minute or two and look upon it as a new kind of toy before he is made the subject of its scientific application.

In auscultating the heart of a child be on the look-out for murmurs due to congenital malformation. Very peculiar some of them are, and sometimes very puzzling. The most frequent, I think, is a systolic murmur, often very loud, which is loudest at, or just below, the junction of the left fourth costal cartilage with the sternum; it is probably often due to an incomplete cardiac septum. The next most common, perhaps, is a systolic murmur over the pulmonary artery, loudest at the second left cartilage and conducted towards the clavicle, often audible in one or both supra-scapular fossæ. This indicates a congenital obstruction of the pulmonary artery. It is often impossible to diagnose the exact condition of a malformed heart by physical examination, and in some cases there may be no murmur at all. A patent foramen ovale, unassociated with any other malformation, is probably of little importance and is a doubtful cause of murmur. Congenital murmurs are systolic in time; a presystolic or diastolic congenital murmur is exceedingly rare. Congenital malformations of the heart mainly affect its right side, which has the predominance in activity during intra-uterine life. After birth this side has much less proneness to disease than the left, though the tricuspid valve does not always entirely escape in rheumatism. But the most important affection of the right heart clinically is secondary to acute or extensive chronic disease of the lungs or to disease of the left heart. In all such conditions a careful watch should be kept on the amount of distension of the right auricle. Think of the tremendous strain on the right heart which a pneumonia causes even within two or three days. The thin-walled auricle becomes greatly distended and the stronger ventricle shares to a less extent in the distension. If the auricle did not act as a reservoir the ventricle would soon be over-distended and its action brought to a standstill. To some extent, then, the dilatation of the auricle is conservative, but if it exceed a certain amount the border-line which separates safety from danger is easily crossed. Distress and dyspnœa are experienced, and the right ventricle has greater and greater difficulty in expelling its blood. If at the same time its muscular structure is poisoned by pneumococcal toxins we can easily understand that, even in a child with healthy heart, liver, and kidneys, a pneumonia is a process dangerous to life. It is true that the child has a much better chance than the adult of weathering the storm, yet its violence may be much diminished and the patient often very obviously relieved by applying a few leeches over his liver. Not only are the distress and dyspnœa diminished, but the patient is enabled to sleep. When the right heart is over-distended sleep is much disturbed and may be impossible. Relieve the over-distension by a few leeches and the patient falls asleep without any hypnotics. Within a short time after the bleeding you will find on careful percussion that the dulness in the fourth right space has diminished, often by as much as a finger-breadth. The relief will almost certainly last for two days, perhaps longer. But do not forget to percuss out the auricular dulness every day. If the pneumonia continues to increase it may be necessary to repeat the leeches in two or three days; in a few cases of exceptional severity (and pneumonia in children under two years of age is not infrequently fatal) it may be advisable to use them even a third time. And in considering the question of bleeding in pneumonia remember that pallor of face and smallness of pulse are not necessarily contra-indications, for after the right side has been relieved the pulse will be stronger and the colour of the cheeks improved. You will observe this if you watch carefully the effect of the application of leeches in such a condition.

What has been said about the importance of carefully ascertaining the amount of distension of the right auricle in pneumonia applies also to certain other pulmonary affections. In acute bronchitis, in chronic bronchitis with an acute exacerbation, in whooping-cough with its mixture of collapse, broncho-pneumonia, and emphysema, and in an asthmatic attack it is important to notice the amount of distension of the right auricle. It is true that the determination may be difficult if the anterior base of the right lung is emphysematous or consolidated, and it may sometimes be impossible when there is fluid in the right pleural cavity, but in the great majority of cases of pulmonary disease it can be accomplished. In all cases of disease of the left heart, especially when it has been injured by rheumatism, it is extremely important to note carefully the amount of distension of the right auricle. It is not usually possible to detect in a primary rheumatic attack an acute dilatation of the right heart, such as seems to occur invariably in the left ventricle. Nor is it dilated in a first attack of chorea, while the left ventricle almost always is. Even when the rheumatic process has damaged the left ventricle sufficiently to interfere with its suction-action, and thus to raise the tension in the pulmonary artery, the only physical sign which reveals this is the accentuation of the pulmonary second sound. For a considerable time the right ventricle will succeed in overcoming the increased tension without affording any clinical evidence of hypertrophy or dilatation; but if the primary rheumatic attack has been very severe, or if a relapse occurs (and to this rheumatic children are exceedingly liable, especially when they are deprived of salicylates), and there is evidence of pericarditis or of great dilatation of the left ventricle, then expect to find a gradual increase in the size of the right auricle. Watch it carefully. If the dilatation of this structure is rapid dyspnœa and cardiac distress will probably be present, but a more gradual increase will only be revealed by percussion. As time passes the heart accommodates itself as well as it can to its difficulties, and if the rheumatism does not recur a condition of comparative comfort may be attained in which the right auricle is distinctly dilated but not yet grievously hampered by distension. The dulness in the fourth right space may amount to one and a half or two finger-breadths, and yet there is no call for relief by leeches. It is, however, a condition of unstable equilibrium. A fresh rheumatic attack or a little over-exertion may turn the scale. Increased dyspnœa reveals the greater strain; the auricle dilates further and its dulness may amount to two and a half or even three finger-breadths in the fourth right space, one and a half in the third, and half a finger-breadth in the second. Before this the liver has become considerably enlarged. If you find it down to the umbilicus or even lower and the amount of urine passed be decreasing there is no time to be lost. The condition is a dangerous one, but relief may be given by prompt venesection or leeching. The auricular dulness will then be found to diminish; the liver also will be smaller, and the digitalis, which was producing little or no effect before, will manifest its action. Hypodermic strychnine will assist in restoring compensation. It is surprising to see how much relief may be given in the later stages of rheumatic heart disease by

treatment of this kind and how long life may be preserved even when the condition of the heart is such that the child is incapable of exertion. But the fatal susceptibility to renewed attacks of rheumatism, incapacitating the heart still more, at last defeats the physician.

Before leaving the right side of the heart I must call your attention to a systolic murmur over the tricuspid region which is not very uncommon in healthy children. It is a low, soft, short murmur, best heard about halfway between the left edge of the sternum and the nipple line, and usually becoming inaudible at a short distance to the left of this line. It is sometimes accompanied by slight irregularity of the heart's action. Its site of maximum audibility is lower than that of the congenital murmur already described and to the right of that of a mitral murmur. It does not indicate any organic disease.

Let us now study the left side of the heart. The left auricle is inaccessible, but enlargement of the left ventricle (in which enlargement the right ventricle probably shares to some extent) can be easily determined by careful percussion, and the strength of the ventricular muscle can be fairly estimated by observing the force and localisation of the impulse.

Dilatation of the left ventricle being very common in children who are out of health it is important to start with a clear idea of the position of the left border of the cardiac dulness in a normal child. Dr. F. J. Poynton determined this carefully in 35 healthy public-school boys between the ages of 12 and 14 years. In 21 out of the 35 boys the left limit was about one inch internal to the nipple, in seven it reached a vertical line through the inner margin of the areola, in five it extended as far as the vertical nipple line, and in two it passed this line by three-quarters of an inch and by one inch respectively. One of these two boys, however, was living in the medical attendant's house because he was delicate, the other had recently suffered from influenza. Thus we may conclude that in healthy boys of from 12 to 14 years of age the left border of the cardiac dulness is found at about one finger-breadth internal to the nipple line. In a few it appears to reach this line, and this seems the more common in the younger children, especially before seven years of age. In 45 cases of children under 12 years old in the surgical wards of the Hospital for Sick Children Dr. Poynton found the left limit internal to the nipple in 19, in the nipple line in 18, and external to the nipple in eight. But of course these were not perfectly healthy children, for they were all inmates of surgical wards. We may conclude that in normal children the left border of the cardiac dulness is usually distinctly internal to the nipple line, that it may sometimes reach it, but that it rarely goes beyond it. This must be carefully remembered when we investigate the cardiac dulness in a child who is suffering from disease, for it is so common to find the left limit from a half to one finger-breadth external to the nipple line that we may be led to consider it as normal, and its discovery to be of no importance. But this inference would be false in fact as well as in logic; its commonness only proves that its causes are many. The cardiac muscle of the child is perhaps specially susceptible to the deleterious influence of toxins and poisonous products circulating in the blood.

The most characteristic instance of this is diphtheria, which is much more fatal in children than in adults, sudden death being by no means very rare after a severe attack of diphtheria in a child. The fatal issue is usually caused by extensive fatty degeneration and destruction of the cardiac muscular fibres, such as Dr. Sidney Martin found to be caused in animals by injection of the diphtherial albumoses. In and after an attack of diphtheria in a child there is usually enlargement of the left ventricle, the impulse becomes diffused and weak, and the first sound is short and feeble. If the dilatation amounts to two finger-breadths to the left of the nipple line the danger of death is great and the case should be very closely watched. And if the limit of the dulness of the left ventricle is only one finger-breadth outside the nipple line it must be remembered that a rapid increase in the dilatation may occur, even six or eight weeks after the diphtherial attack, and may cause sudden and entirely unexpected death at a time when the practitioner is looking for convalescence and has given a hopeful prognosis. Influenza, also, may produce a rapid dilatation of the left ventricle which may be dangerous to life, but in this disease the susceptibility of the child seems to be less than that of the adult.

The pneumococcal toxin appears to affect the left ventricle less than that of influenza, and though there is usually some enlargement of the cardiac dulness to the left in pneumonia it is much less than the enlargement of the right auricle, and one is often doubtful whether the enlargement to the left may not be due to dilatation of the right ventricle pushing the border of the heart further to the left. The rapid recovery which often follows the crisis in pneumonia suggests that the poisonous influence of the toxin of the pneumococcus on the left ventricle cannot be very great.

In typhoid fever a gradual enlargement of the left ventricle is usually to be detected, along with diffusion and weakening of the impulse: the first sound also becomes weak and short. The increase in size often reaches one finger-breadth outside the nipple-line and may amount to two finger-breadths. During convalescence the ventricle gradually returns to its normal size and its strength increases. In tuberculosis the left ventricle is frequently moderately dilated. How far this is due to a tuberculous toxin and how far merely to general debility and anæmia it is impossible to say. Even in debility and in anæmia there may be poisonous products of perverted metabolism circulating in the blood, and in renal disease it is quite likely that some of the increase of the dulness of the left heart may be due to toxæmia as well as to the influence on the ventricle of the raised arterial tension.

In acute and subacute rheumatism an enlargement of the left ventricle with enfeeblement seems to be invariable. It is the first indication of the effect of rheumatism on the heart, and may be detected when there is no evidence of endocarditis or pericarditis. The left border of the cardiac dulness almost always extends beyond the nipple-line, even in the most subacute attack; usually it reaches one finger-breadth to the left of this line, and it may be even two finger-breadths to the left in a first attack of rheumatism in which there is neither rub nor murmur. The impulse is diffused, and both it and the first sound are weakened. As the attack subsides the dulness tends to return to the normal limit. It may do so completely, but in many instances, especially when a murmur becomes audible, the left ventricle remains more or less dilated. A second attack—and to this a rheumatic child is extremely liable—dilates it further, and an accompaniment of endocarditis is only too probable. Pericarditis may occur in a first attack, but is usually a later phenomenon. When it occurs it is always accompanied by great enlargement of the heart, causing an extensive increase in cardiac dulness, usually ascribed wholly to pericardial effusion. After repeated rheumatic attacks the child's heart may reach a size which is almost incredible to anyone who has not observed it in the wards and post-mortem room. Clinically, it may extend four finger-breadths to the left of the nipple-line and to three finger-breadths in the fourth right intercostal space. In the larger rheumatic hearts there is usually a systolic apex murmur and frequently a presystolic or mid-diastolic also. Evidence of pericardial friction, more or less extensive, is common. Occasionally a diastolic murmur at the base gives proof of aortic regurgitation. It has long been known that in children the cardiac manifestations of rheumatism often are far more pronounced than any other indications of the disease. There may be little or no arthritis, no soreness of throat, no eruption or only a very small patch of erythema, no subcutaneous nodules, no chorea or only slight nervous twitching, yet the cardiac rheumatism may be nothing less than deadly. If all who have to do with children would constantly bear this in mind much suffering would be avoided and many lives would be saved. The slightest suspicion of rheumatism should lead to a most careful examination of the child's heart by palpation and percussion; the practitioner who in this matter relies solely upon auscultation betrays a carelessness which is almost criminal, and shows himself unfit to be entrusted with the vital interests of the child.

In chorea an enlargement of the left ventricle, with or without murmur, is present in the great majority of cases. The left border of the dulness almost always extends from a half to one finger-breadth outside the nipple line. This seems to be an additional confirmation of the essentially rheumatic nature of nearly all cases of chorea—one extra link in the chain of proof.

The extreme tendency to cardiac disease in rheumatism and in chorea seems to be not merely the result of the poisonous influence of a toxæmia. This, no doubt, is a part of the deleterious action produced by rheumatism, and it may perhaps sometimes be the sole cause in a slight attack

which recovers completely, but evidence is accumulating to prove that there is usually very much more than this—that actual inflammation of the muscular substance and fibrous structures of the heart exists, and that this is caused by the local presence of a diplococcal micro-organism. Dr. Poynton and Dr. A. Paine have demonstrated such organisms in the cardiac valves (with intact epithelium) and in the muscular wall. The same investigators have proved that pericardial fluid from a rheumatic child when injected intravenously into rabbits can cause in these animals all the most characteristic effects of rheumatism in the child. They have also obtained from a rheumatic nodule in a child, carefully excised with aseptic precautions, a most abundant growth of the typical diplococci in pure culture. In rheumatism, then, we are dealing with an inflammation of the child's most important organ caused by the local presence of a pernicious micro-organism.

The question of treatment at once divides itself into two problems: Can we by the administration of drugs directly destroy these microbes or arrest their growth and increase, without damage to the child? and have we any means of directly repressing the cardiac inflammation?

To the first question I reply that in sodium salicylate, in adequate doses, we have a drug which seems to be definitely antagonistic to the rheumatic process. The theory that it merely relieves pain is only possible when adults are the subjects of the disease; in the child it is at once seen to be absurd. The best proof of the genuine efficacy of salicylate in arresting rheumatism is found in the great tendency to relapse when the drug is being administered in doses which are too small, and especially when it is too soon given up. There is a widespread impression that salicylate of soda is "depressing to the heart." What is really depressing to the heart is the rheumatic microbe, its works and ways, and some of its pe nicious effects have been attributed to the salicylate. Children bear salicylate well and it rarely causes in them the unpleasant aural symptoms which are common in the adult. It seems to be almost as necessary to a rheumatic child as mercury is to a syphilitic infant, and some children with great tendency to rheumatic relapse ought to take a small quantity of the drug daily for a long time. Sodium bicarbonate is another drug which seems to be certainly useful in rheumatism. It may be given in double the dose of the salicylate and along with it. My impression is that the acute dilatation of the left ventricle subsides more rapidly when the bicarbonate has been freely given than when the salicylate has been administered alone.

The question whether we have any means of repressing the cardiac inflammation may also be answered with confidence. Leeches will diminish the congestion of the cardiac vessels, even when applied over the liver, by lessening the pressure in the right auricle and thus aiding the escape of the blood in the coronary sinus and the intra-cardiac venules, and the local application of an ice-bag most certainly represses the cardiac inflammation. These two remedies are of the greatest possible service to the rheumatic heart. Ice is undoubtedly depressing to the normal heart, but when preceded by leeches and used with care it is the reverse of depressing to the rheumatic heart. It relieves the depression caused by the rheumatism, and under its use I have often watched the dilated ventricle diminish and the feeble diffused impulse become changed into a steady, heaving, local thrust. Digitalis is of little service in the treatment of rheumatic cardiac inflammation in the child; its opportunity is later, when the inflammation has subsided and the mechanical effects of the cardiac lesions manifest themselves. Then it will work wonders. When we pass from inflammatory conditions of the heart to the ventricular dilatation and enfeeblement caused by toxæmia we see that leeches and ice are inapplicable. Digitalis is sometimes of service, but the hypodermic injection of strychnine is of still greater utility. Iron is of value in anæmic debility, but in diphtheria I rely mainly upon subcutaneous injection of atropine when danger threatens. I first employed belladonna in diphtheria paralysis more than 20 years ago on physiological grounds. It has subsequently been continually employed at the Hospital for Sick Children and I believe I have seen it save many lives. In cases of less urgency the drug may be given by the mouth, but where the dulness of the left ventricle extends more than one finger-breadth to the left of the nipple line it should be given subcutaneously, with a frequency regulated by the imminence of the danger.

It only remains for me to thank you, gentlemen, for the honour which you bestowed on me a year ago by electing me your president and for your kindness to me during my year of office. The election of that distinguished surgeon, Mr. W. Watson Cheyne, to be president for the next year is a most happy augury for a prosperous session.

NOTES CONCERNING A NATIVE REMEDY FOR BLACKWATER FEVER.

BY D. R. O'SULLIVAN-BEARE, M.B., B.CH. DUB.,
HIS BRITANNIC MAJESTY'S VICE-CONSUL, PEMBA, EAST AFRICA; HONORARY MEDICAL OFFICER, H.H. THE SULTAN OF ZANZIBAR'S GOVERNMENT.

With Note by Mr. E. M. HOLMES, F.I.S.

IT needs no apology on my part for submitting to the notice of the medical profession some particulars concerning a native remedy which appears to be of real value in the treatment of hæmoglobinuric or blackwater fever—that most deadly of the maladies which attack Europeans in tropical Africa, and the one which is responsible for more deaths and for more invaliding amongst them than all the other diseases together. The remedy in question is indigenous to tropical East Africa, and the "wa-ganga," or native medicine men, claim for it that it is a true specific for blackwater fever. But before proceeding to set forth details concerning the remedy I may be permitted to offer a few remarks with regard to the fell disease for which it is said to be a cure.

The principal symptoms characteristic of an attack of blackwater fever are four in number—namely, heightened temperature, vomiting, jaundice, and dark-coloured urine. The dark hue of the urine, which in many cases is as black as porter, is due to the presence therein of hæmoglobin, or possibly methæmoglobin, and it is so striking a symptom that it has determined the popular name for the disease. The starting-point of an attack of blackwater fever is a condition of general toxæmia. The toxin present in the system exerts a destructive action upon the red corpuscles, and the circulation in the blood plasma of the hæmoglobin thus set free is responsible for all the symptoms which characterise an attack of the disease. In the early stage of the condition of hæmoglobinæmia the liver deals with the free hæmoglobin, which it converts into bile pigments. But there is a limit to the capacity of the liver for thus acting, and when that limit has been reached any excess of free hæmoglobin is eliminated through the kidneys. The symptom of hæmoglobinuria is indicative, therefore, of a wholesale destruction of red corpuscles. The passage of the free hæmoglobin through the kidneys sets up a true nephritis, indicated by the fact that the urine soon becomes loaded with albumin, and in many cases the nephritis thus produced gives rise to suppression of urine, partial or complete, with resulting uræmia. Thus a person attacked by blackwater fever suffers at the same time from violent hæmorrhage and from profound depression of the nervous system, due to heightened temperature and to uncontrollable nausea and vomiting; superadded to which is the very grave condition of nephritis. It is obvious, therefore, that blackwater fever is one of the most formidable of all known diseases.

As to the primary cause of blackwater fever we are entirely in ignorance. The predisposing cause of the disease is undoubtedly that anæmic state of the system produced by repeated attacks of ordinary malaria which is known as malarial cachexia. With regard to the theory enunciated by Professor Koch, that the administration of quinine is the chief exciting or determining cause of an attack of blackwater fever, I would point out that the disease undoubtedly attacks native Africans who have never taken a dose of that drug; two such instances have come under my notice. Again, in Zanzibar and Pemba, where Europeans and natives alike suffer from all varieties of malaria and are habitually treated with quinine, blackwater fever is unknown, save in the case of those persons who have resided in or have visited districts on the mainland where the disease occurs.

Personally I hold that blackwater fever is not a complication of ordinary malaria, but an entirely distinct disease which at present is endemic in certain districts only; that it attacks persons exposed to its influence whose vital powers of resistance have become weakened from the effects of chill, insolation, bad or insufficient diet, over-fatigue, or possibly

from the abuse of quinine; but that it finds its most favourable nidus for development in the system of those persons who have become debilitated by repeated attacks of malaria.

As regards the treatment of blackwater fever it must be confessed that medical science has hitherto been completely baffled. Quinine, in one or other of its forms, is the drug which has been most generally employed in the treatment of the disease in question. Its selection was based upon the belief that blackwater fever was a complication of ordinary malaria, and it was assumed that the drug, being undoubtedly possessed of remedial virtues in connexion with what was supposed to be the primary disease, would yield good results in the complication also. The test of practical experiment has demonstrated the unsoundness of such reasoning, and it is now the opinion of most medical men who have had considerable experience of blackwater fever that the exhibition of quinine in cases of that disease aggravates the symptoms and is distinctly harmful. Such is also my own personal opinion. Indeed, it might have been inferred *a priori* that quinine, which acts simply as a parasiticide and not as an antitoxin, would fail to yield good results in hæmoglobinuric fever, since the destruction of the blood corpuscles which takes place in that disease is due, not to the direct action of individual parasites, but to the influence of the toxin present in the system. The aggravation of the symptoms produced by the administration of quinine is explained by the discovery made by Professor Koch that the drug in question exerts a toxic influence upon diseased blood corpuscles, which it destroys. There is only one legitimate rôle for quinine in connexion with blackwater fever—namely, that of a prophylactic against ordinary malaria. By guarding the system against attacks of that disease it will at the same time guard in great measure against attacks of the more formidable malady also.

Various drugs other than quinine have been tried from time to time in the treatment of hæmoglobinuric fever. I may cite, for example, ergot, tannin, and perchloride of iron. No satisfactory results have been obtained from their administration, and, indeed, it is difficult to understand by what process of reasoning the employment of such drugs can be justified. Boric acid also has been tried in the hope that it might prove efficacious by reason of its antiseptic properties, but so far as I know the results of that method of treatment have not been encouraging. In a word, amongst officinal preparations there appear to be none upon which, employed either singly or in combination, any reliance can be placed for the treatment of blackwater fever.

I come now to a consideration of the native remedy for the disease in question. I first heard about it some years ago, during my sojourn in East Africa, from a very intelligent Arab who had travelled much between the coast and the great central lakes, and who in the course of his journeys had seen the remedy used by some of the tribes in the interior, amongst whom blackwater fever would appear to be endemic. The remedy in question consists of a decoction made from the roots of a *cassia* which grows in equatorial East Africa from sea level up to an altitude of some 2000 feet. The tree attains a height of from 20 to 30 feet; the inflorescence is bright yellow in colour, and the ripe seed pod is about two and a half feet in length. The botanical characteristics of the tree in question have been described and figured by Mr. E. M. Holmes, F.L.S., curator of the museum of the Pharmaceutical Society of Great Britain, in the *Pharmaceutical Journal* of Nov. 30th, 1901, and of Jan. 18th, 1902. Mr. Holmes is of opinion that the tree is a new species and he has named it *Cassia Bearcana*. The native method of preparing and administering the decoction is as follows: they chop a portion of the root into pieces, each about one inch in length, and of those pieces they boil about one dozen in a gallon of water for half an hour or so. The result is a red-coloured fluid of which the patient suffering from blackwater fever is given to drink, either hot or cold, as often as he feels thirsty. Apparently it is non-poisonous in its action and may be consumed in unlimited quantity. In cases where the patient does not suffer from marked thirst the decoction is administered in doses of about a teacupful every couple of hours. The natives employ the same remedy, and they claim for it specific virtues also in the treatment of that simple form of hæmaturia—i.e., unaccompanied by febrile symptoms—which is so prevalent amongst the negroes of East Africa. The only portion of the tree, other than the roots, employed medicinally by the natives is the bark, which they powder and apply as a dressing to ulcers, apparently with good results.

I succeeded in procuring a supply of the roots of the tree in question and I sent some of them to Messrs. Christy and Co. of London for the purpose of having made therefrom a preparation which would approximate as closely as possible to the decoction used by the natives. Messrs. Christy and Co. accordingly made for me a fluid extract of the root, by maceration and percolation, with distilled water evaporated at a low temperature, 25 per cent. of alcohol of 90° being added to preserve it. The action of the fluid extract thus prepared would seem to be identical with that of the simple decoction. I have treated five cases of blackwater fever with the native remedy. Of the five patients two were Africans, two were Arabs, and one was a native of Beloochistan. In the case of the two Africans and of one of the Arabs the attack in each instance was of moderate severity and had not long declared itself when I began the treatment. In the case of the other Arab and of the Beloochi the attack in both instances was severe and had declared itself several days before I saw the patients. The negroes assured me that they had neither of them ever had a dose of quinine; that statement was doubtless correct, as they came from the interior and had never been brought into contact with Europeans. Both of the Arabs and the Beloochi had apparently been treated with quinine at various times for attacks of ordinary malaria, but each of them assured me that he had had no quinine for at least two months prior to the attack of blackwater fever. All five patients had suffered considerably on and off from attacks of ordinary malaria. The Beloochi, from his account, appeared to have suffered at least once before from blackwater fever, but in the case of the other four patients the attack of that disease for which I treated them would seem to have been the first of that nature from which they had suffered. The two Africans I treated with the decoction of the *cassia* root prepared in the native manner. I gave about a teacupful as a dose every two hours during the first 12 hours, and afterwards a similar quantity every three or four hours. Both patients made a speedy recovery; the temperature fell gradually from 103° F. to nearly normal within 24 hours, and the urine, which had been scanty in quantity and very dark in colour in each case when I first saw the patient, became more abundant and almost clear in colour within the same period. The nausea and bilious vomit which had distressed the patients at first quickly subsided and on the second day they were able to retain a fair quantity of liquid nourishment. On the third day the temperature was normal, the urine was almost quite clear, the nausea and vomiting had ceased, and the tongue had begun to clean. Within six days the patient in each case was convalescent, but I continued to administer a dose of the decoction three times daily for a few days after all the symptoms had disappeared. There was no relapse in either of the two cases within a period of two and of two and a half months respectively, during which periods I had an opportunity of seeing the patients from time to time. The two Arabs and the Beloochi I treated with the liquid extract. For a dose I gave one fluid drachm well diluted with water every two hours at first, and afterwards at longer intervals. Those three patients also made a rapid recovery. The case of the Beloochi was particularly striking. When I first saw the man he had been suffering for three days. He was deeply jaundiced, the tint of his skin being a greenish bronze; he suffered acutely from gastralgia, with nausea and continual vomiting; his urine was scanty and nearly black in colour, and his temperature was over 104° F. In a word, his was a typical case of a severe attack of hæmoglobinuric fever. The administration of the first dose of the fluid extract was followed by an attack of vomiting after an interval of but a very few minutes. I waited for some five minutes and then administered about a teaspoonful of the mixture; this was retained and no vomiting ensued for nearly half an hour. After an interval of 15 minutes from the cessation of the vomiting I gave the patient an ounce of the mixture; this also he retained and he slept for nearly an hour. Again he vomited, and again after an interval of 15 minutes I gave him an ounce of the mixture. The nausea and vomiting gradually diminished; he took and retained a couple of ounces of the mixture every few hours and within 24 hours the nausea and vomiting had practically ceased. As in the case of the other four patients his urine became more abundant and clearer within 24 hours from the first administration of the remedy, his temperature fell steadily, he got a fair amount of sleep after the first 12 hours of treatment, and he was able to retain some nourishment. He

made a good recovery within one week from the time that I first began to treat him. I see no reason to doubt that the good results in his case, as well as in those of the other four patients, were due to the action of the native remedy, which was the only drug administered.

I have obtained very encouraging results also from the native remedy in cases of bilious remittent fever where the administration of quinine appeared to do more harm than good. Such cases, which are not uncommon in East Africa, begin with general malaise. The patient next complains of frontal headache and of a dull aching pain across the loins; the muscles all over the body feel sore and bruised, as though they had been beaten with a stick; the tongue gets heavily furred; and nausea and bilious vomit declare themselves. The bowels are generally constipated, but in some cases there is bilious diarrhœa. The temperature rises at the commencement of the attack, frequently reaches 105° F., and varies between that and about 101° F. Often there occur clammy sweats which do not appear to have much effect in lowering the temperature. A sour, disagreeable odour, very characteristic of the disease, emanates from the person of the patient and clings to the bedding. The conjunctiva becomes yellowish in hue and there is considerable jaundice of the whole skin. The urine is usually high-coloured, turbid, and offensive in odour. I recollect the case of a European lady in Zanzibar who suffered from such an attack. Although she was literally saturated with quinine—administered by the mouth, per rectum, and hypodermically—yet her temperature remained persistently high for over a month. There was little or no amelioration of the general symptoms, and eventually it was found necessary to send her home.

The *cassia* remedy has proved of much value in several cases of that nature in which I have used it. I may cite the case of a Mission lady who had been suffering for two months when I saw her from bilious remittent fever with nausea and frequent vomiting, headache, and heavily furred tongue. Her temperature, it appeared, had never fallen to normal during all that period and had frequently risen as high as 105° F. She had taken large doses of quinine, sometimes as much as 20 grains daily of the sulphate for many days consecutively. I ordered teaspoonful doses of the liquid extract of the *cassia* root to be taken every four hours. I saw her again after three days; her temperature was then normal, her tongue was quite clean, she had no headache, and she had begun to feel hungry. She told me that from the time when she took the first dose of the medicine she had had no nausea or vomiting, and that she had begun to mend in every way.

Some of the Fathers of the Roman Catholic Mission in East Africa have made trial of the native remedy, both in the form of the decoction and also of the fluid extract with which I supplied them, in the treatment of blackwater fever. They are, unfortunately, only too familiar with that fell disease, which for years past has claimed a heavy toll of victims from amongst the members of the Mission at their various stations on the mainland. The following is an extract from a letter which I received from one of the Fathers, Père O——, as to his experience with the remedy:—

> With pleasure I give you particulars of my experience concerning the efficacy of the native remedy for blackwater fever. ..... I had occasion to try it in the case of one of my *confrères*—a missionary suffering from a violent attack of blackwater fever, as diagnosed by a German doctor of medicine. The valued patient recovered from the attack, thanks to the decoction of the root. Fifteen days afterwards I had a similar experience in the case of a German non-commissioned officer who had been ill with blackwater fever for a period of 10 days and who was in the last extremity. Without omitting to administer a good emetic of ipecacuanha I caused him to drink every hour a cupful of the decoction, and 48 hours later the patient, who is to-day on the active list of the colonial army, was out of danger. The hæmoglobinuria had ceased within barely 18 hours from the first administration of the remedy. I have also proved its efficacy against blackwater fever in the case of another of my *confrères* and likewise in the case of a German Captain who is still on active service. I had a like happy result in the case of another German sergeant. As regards its efficacy against the hæmaturia, ordinarily simple, from which the blacks suffer I have proved it in more than 30 instances.

Père E——, who has resided in various parts of tropical East Africa for over 37 years and who probably has seen more cases of blackwater fever during that period than any other man now living, wrote to me as follows:—

> I have had occasion to employ very frequently the native remedy, in the form of a decoction, in cases of blackwater fever, and I have had in every instance very good results from it. I did not lose one patient of those whom I treated with that remedy. ..... Since I received from you the fluid extract I have had occasion to employ it in two cases and each time with the best results. The first case was that of Brother A—— who doubtless has told you how I cured him within a few hours. The second case was this:—some two months ago I arrived at Bagamoyo and there I found Sister M—— *in extremis* as the result of a very bad attack of blackwater fever; the last rites of religion had been administered to her and her death was expected from

FIG. 1.

Upper part of inflorescence of Cassia Bearcana, one-sixth natural size.

FIG. 2.

Cassia Bearcana, n. sp. Leaf one-quarter the natural size.

hour to hour. I immediately gave her some of the fluid extract, 150 drops in two tumblers of water, which she drank in sips; it was with much difficulty that she could swallow even a little water. After some hours the attack was checked and the urine became clear. She remained for some time very weak as the result of the attack, but she has completely recovered and is now doing her work like the other Sisters.

Such, then, is a *résumé* of the results obtained by the Mission Fathers and by myself from the employment of the native remedy in question. Those results appear to me to be very encouraging, so far as they go, and I venture, therefore, to propose to my colleagues in the medical profession that they also shall make trial of the *cassia* preparation, and that they shall record their experience of its action, so that the question of the therapeutic value of the preparation may be determined. It is not an exaggeration to say that the discovery of a reliable remedy for blackwater fever is a matter of vital importance for the welfare of our colonies in tropical Africa.

I have sent a supply of the root of *Cassia Bearcana* to Messrs. Christy and Co. of 4, Old Swan-lane, Upper Thames-street, E.C., who will furnish gratuitously samples of the fluid extract of same to medical men and others desirous of testing the remedy.

NOTE BY E. M. HOLMES, F.L.S.

The plant affording the root used by Dr. O'Sullivan-Beare as a remedy for blackwater fever is a small tree, from 20 to 30 feet high, having a trunk about six inches in diameter when fully grown and the habit or form of an apple tree. It belongs to a small group of trees in the genus *Cassia* (Nat. Ord. *Leguminosæ*) of which *Cassia*

FIG. 3.

a, Base of pod. *b*, *c*, Seeds, both natural size. *d*, Transverse section of seed enlarged. *e*, Apex of pod, natural size.

fistula is the type. The trees of this group have long, hard, cylindrical or compressed pods, attaining from one to two feet in length, and divided internally into numerous cells by transverse partitions, each cell containing a seed transversely placed. The leaves have numerous pairs of leaflets about one inch or more in length. The species differ chiefly in the colour and markings of the flowers, the persistent or fugacious character of the bracts, and the shape of the pods and seeds, and by the presence or absence of a swelling in the middle of the longest stamens. The particular species which yields the blackwater fever remedy is very closely related to *Cassia abbreviata*, Oliv., to which, until I had seen the pod and seeds, I supposed it to belong; but although it has yellow flowers beautifully reticulated with reddish-brown veins and persistent bracts like that species, it differs from it in having a compressed, smooth, not hairy pod and oval seeds, and in having the swelling in the middle of the long stamens very pronounced. As it differs in essential characters from any species hitherto described I have named it in honour of its discoverer, *Cassia Bearcana*, n. sp., and have given the following description of it in the *Pharmaceutical Journal*, Jan. 18th, 1902, p. 42.

Cassia Bearcana, n. sp.—A small tree attaining 20 to 30 feet, the young leaves not seen, but the inflorescence is shortly pubescent, especially on the rachis. The leaves are about eight to 10 inches long, and the leaflets in eight to 10 pairs, elliptical, obtuse, rounded, or very broadly cuneate at the base, glabrous, with reticulate venation. The leaflets are one and a quarter to one and a half inches long, and three-fifths to nearly an inch wide in the centre, petiolules about one line long, slightly rugose, the common petiole without glands. Racemes on (terminal and (?)) lateral shoots, rather short and subcorymbose, the rachis about three inches long, shortly pubescent, with persistent recurved bracts and bractlets, about one-quarter to one-third of an inch long, linear, acuminate, and minutely glandular-pubescent. Pedicels ascending, straight, slender, furrowed, faintly pubescent, or nearly glabrous, two and a half inches long. Petals obovate oblong, scarcely tapering to the base, three-fifths to three-quarters of an inch long, canary yellow, beautifully veined with dark red or chestnut veins. The longer stamens exceed the petals; the filaments are distinctly dilated near the middle. The young ovary is covered with appressed whitish hairs. Legume about 30 inches long, one inch broad, and half an inch thick, compressed, with the sutures not at all prominent, glabrous, or not visibly hairy, with the dissepiments showing on the surface as transverse lines about quarter of an inch apart. The seeds are blackish, brown, oval, about seven-sixteenths of an inch in length, and five-sixteenths of an inch in width, and nearly one-eighth of an inch in thickness, with a central longitudinal linear depression, and do not appear to be surrounded with pulp.

Pemba.

ON THE ULTRA-VIOLET LIGHT FROM A RAPID OSCILLATION HIGH-TENSION ARC, FOR THE TREATMENT OF SKIN DISEASES.

BY HUGH WALSHAM, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT MEDICAL OFFICER IN THE ELECTRICAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL; ASSISTANT PHYSICIAN, CHEST HOSPITAL, VICTORIA PARK.

IT is now established quite beyond question that sunlight and the light given off by the electric arc have the power of retarding the growth, or even of killing outright, various kinds of micro-organisms exposed to their influence. The credit of first having pointed out this action of light on bacteria undoubtedly belongs to Downes and Blunt who, as long ago as 1878, communicated a paper to the Royal Society on the Influence of Light on Protoplasm. The subject appears to have been quite lost sight of until 1892, when Professor Marshall Ward communicated a paper, also to the Royal Society, entitled, "Experiments on the Action of Light on the Bacillus Anthracis." Professor Ward says: "The results are as startling as they are important, for if the explanation given of the phenomena observed in the following experiments turns out to be the correct one we stand face to face with the fact that by far the most potent factor in the purification of air and rivers of bacteria is sunlight." Professor Ward treated the subject from a purely scientific point of view, and probably had no idea of the importance of his experiments in relation to the treatment of disease. The credit of having applied the knowledge of the bactericidal action of light therapeutically belongs without doubt to Professor Finsen. He made use of both sunlight and the electric arc, but found the latter more efficacious. The next important communication on the subject is from the pen of Dr. Strebel of Munich to which reference will be made later.

Before giving any account of the experiments which form the subject of this paper I must explain that as soon as it became apparent that the best method of making

measurements of the light was an electrical one, Mr. Leslie Miller, A.M.I.E.E., gave me his skilled assistance, and I am also indebted to him for various suggestions that are embodied in the paper.

At the commencement I recognised the fact that the only way that would decide whether the attempt to improve the apparatus for the light treatment of skin disease was successful or not would be to give it a fairly lengthy trial on patients suffering from that disease. No experiments such as those of Dr. Strebel on cultures of the bacillus prodigiosus inclosed in glass cells with quartz lids would give any certain knowledge of what would happen to other species of bacilli in the human skin, and therefore we felt it would be useless from a medical point of view to bestow extreme care and much time on carrying out quantitative experiments on bacteria. I therefore confined myself to proving that the apparatus hereinafter described gave out the necessary ultra-violet radiation for practical trials in the treatment of lupus in the electrical department of St. Bartholomew's Hospital.

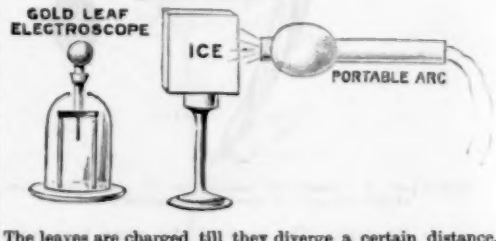
In the first place, it is necessary to regard light used for bactericidal purposes from the mental standpoint of a man born blind. White light is then electrical vibrations or waves in the ether and is merely the octave to which our retina responds in a whole series of ether vibrations. This is not the place to go into the subject of the measurement of wave lengths. It will therefore suffice to point out that when white light is resolved into its component parts of red, green, violet, &c., the wave lengths are as follows: where λ = the wave length and $\mu\mu$ the millionth of a millimetre, red to green from 698 $\mu\mu$ to 500 $\mu\mu$; green to blue, 500 $\mu\mu$ to 457 $\mu\mu$; blue to violet, 457 $\mu\mu$ to 392 $\mu\mu$; and ultra-violet, below 392 $\mu\mu$. According to Dr. Strebel the spark of an induction-coil between the following metal points gives waves of which the shortest wave lengths are as stated: aluminium, 185 $\mu\mu$; zinc, 202 $\mu\mu$; cadmium, 214 $\mu\mu$; and carbon, 229 $\mu\mu$. He also says that water 8·5 millimetres thick inclosed between two quartz plates 1·3 millimetres cuts off all lines below 214 $\mu\mu$, but this appears to be rather overstated, probably owing to an almost invisible film of foreign matter on the quartz nearest the arc.

Now, it has been proved by numerous investigators that the bactericidal rays are those that correspond to the blue, violet, and ultra-violet region of the spectrum, and by Dr. Strebel that the shorter waves beyond the violet, called the ultra-violet, will kill bacteria when the visible rays have been altogether shut off. Up to the present time, however, no one has proved what wave length is the most effective, and this is a point much needing investigation. On the one hand, we have the fact that Professor Finsen by means of his earlier form of lamp through which few ultra-violet rays could pass, undoubtedly cured lupus, although slowly; on the other hand, we have the investigations of Dr. Strebel who destroyed the cultures of the bacillus prodigiosus under quartz by means of the ultra-violet rays alone. Even when concentrated by means of lenses sunlight has been found by Professor Finsen not to be so effective as arc light. This is probably due to the fact that the extreme ultra-violet rays of sunlight are absorbed in our atmosphere, and it is due to their presence in the arc that the latter is superior to sunlight.

P. Lenard[1] has shown that the extreme ultra-violet rays generated by an electric arc are absorbed by a layer of air two centimetres in thickness, and he is of opinion that these rays are contained in sunlight but only in the higher regions of the atmosphere. Spectroscopic observations showed the wave length of these rays to be shorter than those hitherto mapped, ranging as they do from 160 $\mu\mu$ to 190 $\mu\mu$. It is easy to satisfy oneself of the absorption of the violet end of the spectrum by the spectroscopic examination of the sun when on the meridian and when near the horizon. It is only necessary to take photographs of the spectrum at these times to see the great amount of absorption which takes place in the violet and ultra-violet regions of the spectrum when the sun is on the horizon. Of course, the light from the setting sun has a much longer column of air to pass through than when on the meridian.

This paper is concerned merely with proving that a certain source of light gives out an abundance of extreme ultra-violet, with a fair proportion of rays of lower refrangibility. To prove this three methods were available: (1) by photography (chemical action); (2) by changing the short waves into longer by letting them fall on to some substance that will become fluorescent and thus render them visible; and (3) by an electrical method—viz., letting the rays impinge on a piece of bright metal (zinc or aluminium) connected with the leaves of a gold-leaf electroscope charged with negative electricity. By photography it was easy to prove that the source of light gave off rays far beyond the visible violet of the spectrum, but it was not at all easy to compare the negatives so as to judge the intensity of the source of light. For instance, one candle will give a spectrum as long as 20 candles, but some easy way of knowing that the source was 20 times as powerful in the second case as in the first was wanted and this involved equal exposures and the same development. In addition to this dry plates are not equally sensitive to waves of all wave lengths and not sensitive at all to very short waves, simply because, as proved later, they will not penetrate the gelatin of the films. By means of a spectroscope fitted with a quartz prism and quartz lenses a number of photographs of the spectrum were taken, but finally photography was given up and the spectrum observed after the light had passed through the quartz prism and lenses on to an ordinary platino-barium screen and on papers which had received washes of solutions of esculine, fluoresceine, and sulphate of quinine. This method is much quicker but not altogether satisfactory, as the visibility of the ultra-violet portion of the spectrum depends largely on the successful darkening of the room. Another and fatal objection to this method of observation was this—the total thickness of the quartz train (lenses and prisms) was upwards of an inch, and this must offer a considerable obstruction to short waves. Finally, the electrical method mentioned above was adopted, with the view not only of measuring the power of the very short rays (about 200 $\mu\mu$) that alone affected the gold leaves, but because it was found that these rays always seemed to bear the same proportion to those that caused fluorescence, and the latter could only be roughly measured by the eye. Waves of different length have different degrees of penetration for the same substance, and a given wave does not penetrate various materials equally well. In the general way the shorter the wave length the less the penetration. Ultra-violet rays of short wave length reach the tops of mountains but not the valleys, and still less penetrate glass windows. As the micro-organisms of lupus (tubercle bacilli) are mostly situated in the deeper layers of the skin it is absolutely necessary that the rays should have sufficient penetration to reach them. If a small antrum lamp be placed in the mouth in a dark room the light penetrates the skin and bone easily enough, but these rays would not kill the bacilli as they are mostly those towards the red end of the spectrum. The wave length is, however, so easily lengthened or shortened by impinging on various bodies that it would not be wise to dogmatise on this point. A ready means of testing the penetrating power of the extreme ultra-violet rays of the metal arc was wanted, and this was found in the gold leaf electroscope. The action of this instrument depends on a property possessed by the waves, chiefly those of shorter wave length than about 200 $\mu\mu$, to render gases through which they pass conductive. If the rays are directed against the ball or plate of a gold-leaf electroscope charged negatively the leaves fall together with a rapidity depending on the power of the light falling on them. The general arrangement is shown in the illustration (Fig. 1).

FIG. 1.



The leaves are charged till they diverge a certain distance, then the rays of the lamp are directed on to the ball or plate and the time taken that elapses before the leaves fall together. In this way the following facts were demonstrated:—1. Two pieces of quartz about 2·2 millimetres thick and separated from one another by a space of 10 millimetres, stopped 60 per cent.

[1] Annalen der Physik, March, 1900.

of the rays that affected the instrument. 2. When the space between the two discs was filled with water, from 10 to 15 per cent. of the remainder were stopped. 3. A film of transparent gelatin 0·04 millimetre thick stopped the whole of the rays. (This is in practical agreement with Dr. Strebel's result, that gelatin 0·5 millimetre thick stopped all rays below 257 $\mu\mu$.) 4. A block of ice six inches thick offered scarcely any more obstruction than the same column of air. 5. When the arc was formed between iron points the effect was double that due to zinc. The iron arc, however, was visibly the larger of the two. 6. The least film of iron oxide on the surface of the quartz stopped the effect almost entirely. Unfortunately, iron oxide is given off rather freely, and on this account it is not advisable to work with the quartz too close to the arc. On the whole iron seemed the most practical of various metals tried. According to some particulars recently published[2] of Dr. Bang's new arc lamp with water-cooled carbons, after carbon he prefers silver and some kinds of iron. The bactericidal power of this lamp is said to be 19 times that of an ordinary arc. In a more recent account of this lamp Dr. Bang[3] claims 60 times the efficiency.

The extraordinary transparency of ice to the rays seems a fact of much importance. Professor Finsen has proved that blood offers the chief obstruction to short waves. If therefore the part to be treated can be rendered anæmic by pressure, the ultra-violet rays have a greater chance of exerting their destructive action on the bacilli. Hitherto pressure has been the only means resorted to, but there seems to be no reason why cold should not be employed in addition. Since the heat from the high oscillation arc is at the most one-tenth that of an ordinary 10-ampère arc, a disc of ice one inch in thickness in front of the arc will last long enough for one exposure. Ice thus fulfils the double object of rendering the part anæmic and allowing sufficient compression to be applied.

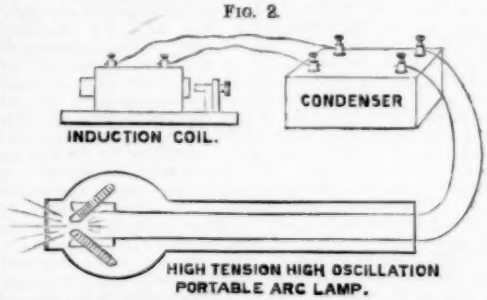
A few comparisons were made of the action of one of the ordinary 10-ampère lupus arc lamps now used, with the quick oscillation arc. In the lupus lamp the usual carbons were employed. The metal shield was fitted with a compressor consisting of two discs of quartz together equal to about five millimetres in thickness, with a layer of water between of about 13 millimetres. The gold-leaf electroscope was not appreciably affected and the fluorescent effect was only just visible. When the naked arc without any quartz or water was used there was just about the same effect on the gold leaves as with the quick oscillation arc, also naked. The fluorescent effect appeared to be about the same, but the eye cannot be depended upon when the general illumination is quite different.

Another comparison was made between the effects of a step-up transformer worked from the street alternating main and a 12-inch induction coil worked from eight cells of an accumulator battery (16 volts). The pressure of the transformer had been adjusted so that the arc formed was about that suitable for treatment. Speaking generally under these conditions no difference could be perceived. This result is surprising, but the number of oscillations of the current influences the light-giving powers of the arc to an extent that cannot be predicted. With the coil, at most 16 volts and five ampères = 90 watts were taken from the accumulators, most of which energy was wasted in the coil and condenser, while an ordinary arc takes 450 watts in the arc alone without the waste in any resistance that may be employed.

Cases of lupus vulgaris and lupus erythematosus have been under treatment in the electrical department by this source of light. Cases of the former variety of the disease make more progress than the latter. The time of exposure has been from 10 to 15 minutes. And here I would point out the importance of compression. Cases in which this can be efficiently applied (as, for example, lupus on the end of the nose) improve much quicker than cases in which the compression is more difficult. At the present time it is somewhat hard to tell whether a given case of lupus will do better with the x rays or the ultra-violet rays. Many observers appear to regard the treatment by x rays and by light as something quite different. When we consider, however, in how many ways ultra-violet light and x rays are alike the distinction between the two almost vanishes. Both act chemically, both produce fluorescence in bodies, both discharge the gold-leaf electroscope. The action on the skin is, however, somewhat different, although they are both capable of producing dermatitis and pigmentation. In the case of the light treatment dermatitis supervenes after some hours, whereas with x rays it may require even weeks to produce it. Again, the dermatitis produced by the ultra-violet rays soon resolves, but it is well known that the x ray form may take weeks or even months to heal. It is true that x rays have more penetration, but in passing through a body they generate secondary rays which have a great analogy to ultra-violet rays. It is probable that secondary rays are Roentgen rays very slightly penetrative and possibly intermediate between the rays from a soft tube and extreme ultra-violet rays.[4] There is, according to current belief, a great difference in their action on bacteria, the x rays being said to stimulate their growth while the violet and ultra-violet rays are known to kill. In fact, we may say that the only absolutely sure ground on which we may build is that the ultra-violet rays will kill bacteria outside the body. Other observers are treating cases of lupus with the static breeze and the Tesla condensing electrode. The Tesla electrodes have been used with success in the department, and it appears to me in all these various methods of treatment that the only one point they possess in common is the ultra-violet ray.

The illustration (Fig. 2) will sufficiently show the general

FIG. 2.



form of the lamp as used in treatment in the electric department of the hospital. When used from the street mains great care is necessary to see that there is no defect in the insulation, otherwise a severe shock may result. When worked from an induction coil ordinary precautions only are required. But in all cases it is necessary to shield the eyes from the arc or severe conjunctivitis may result. The apparatus is about a foot long and the tube is one and a half inches in diameter. When the end is not closed by a disc either of quartz or ice the arc makes a considerable noise. It is of course quite easy for the patient to press the end against the skin when the patch of lupus is conveniently situated.

It has already been shown that all materials used as compressors, or heat arrestors, unfortunately obstruct many of the bactericidal rays. A simple plated grid as a compressor has therefore been tried. This allows the naked arc to be used for a limited time at a distance of one and a half inches from the skin. Ice, however, has so many advantages both from a theoretical and practical point of view that it has been adopted in nearly all cases. These advantages are so important that it may be well to enumerate them: (1) it is hard enough to cause efficient pressure; (2) it adds to this effect by increasing the anæmia by cold; (3) by its transparency it allows the individual lupus nodules to be clearly seen; and (4) it is transparent to the violet and ultra-violet rays of the spectrum and opaque to the red and infra-red.

So far as I can see from about two months' treatment of lupus patients the curative action of the light given off by this apparatus is satisfactory.

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[2] Engineering, Dec. 16th, 1901.
[3] Brit. Med. Jour., Jan. 4th, 1902, p. 46.
[4] G. Sagnac: Annales de Chimie Physiologique, June, 1901.

Angabe einer Methode zur besseren Ausnutzung der Bakteriziden Kraft des Voltabogenlichtes, von Dr. H. Strebel, in München, Deutsche Medicinische Wochenschrift, No. 5 und No. 6, S. 69 und 86, 1901.

Harley-street, W.

TWO CASES OF UTERINE CANCER SUCCESSFULLY TREATED WITH CANCROIN.

BY PROFESSOR ALBERT ADAMKIEWICZ.

(*Translated for* THE LANCET.)

NOT long ago I published[1] a case of uterine cancer which had been treated by my method with cancroin and had been cured of very severe symptoms of the disease. The change for the better which speedily followed the use of cancroin and the complete recovery of the patient from a condition of terrible suffering—a recovery coincident with the prolonged administration of the remedy—must remove any doubt as to the connexion between the progress of the case and the effect of my treatment.

In June, 1900, this patient suffered from cancer which filled almost the whole of the true pelvis (*nahezu das ganze kleine Becken entfüllenden*); in May, 1901, she was freed from it by injections of cancroin, and in the beginning of October, 1901, she called on me to thank me not only for her recovery but for its permanence. In June, 1900, the case was given up as hopeless by an eminent surgeon, but the excellent health which the patient enjoyed in October, 1901, was conclusively proved by the fact that a medical man who called on her found her engaged in scrubbing the floor in the house where she lived. This condition of the patient is a testimony to the efficacy of my method, and it also shows that the continued observation of a patient restored to health by cancroin is a public duty, in order that the merits of an excellent method of treating cancer, now at last discovered after thousands of years, may not, to the detriment of suffering humanity, be nullified by inadequate knowledge.

It is in all cases necessary to make certain beforehand of the presence of the conditions which must be combined in order that the success of my method of treating cancer may be assured; the frequency with which this occurs fills me with the hope that by systematic and at the same time strictly correct application of my method such cases will soon be no longer rarities but will be the rule, and I am encouraged in this by the fact that in the case now to be described improvement and recovery were brought about in a surprisingly short time by careful utilisation of all the experience that had been gained with my system of treatment.

The following description of the case was placed at my disposal by the medical man in attendance on the patient and will speak for itself.

PREVIOUS HISTORY OF THE CASE.

"The patient, a married woman, 36 years of age, residing in Vienna, fell ill with severe hæmorrhage in February, 1901. Several gynæcological specialists who were consulted agreed in diagnosing cancer of the cervix uteri. Hofrath Dr. Chrobak raised the question of total extirpation of the affected uterus, but this was not carried out, only the cervix being scraped in the Sanatorium Fürth on March 13th. Microscopical examination showed the disease to be cancer. Immediately after the operation Hofrath Chrobak declared that the case was one of those in which operation offered not the slightest prospect of success, and he gave a relative of the patient a description of the well-known stages through which the disease would pass and of the distressing manner in which it usually terminated, winding up his observations with the remark that it would be better for the patient if she did not awaken from the anæsthetic. This dismal picture of what was in store for the sufferer very soon received a melancholy confirmation, for the most dreadful pains were the immediate sequel of the operation and continued as a permanent symptom, alternating with hæmorrhages. The disease became worse and worse, and the patient was soon unable either to leave her bed, to sit up in bed, or to lie on her side. Even her power of taking food suffered, for she vomited what she ate. Her bowels never acted without the help of medicine, defecation was extremely painful, and her urine had to be drawn off with a catheter. Repeated consultations with Hofrath Chrobak and Dr. Herzfeld led to no result. Both of them pronounced the disease to be inoperable carcinoma; they said that the case was hopeless, and they could only sympathise with the patient and with me the medical attendant. Examination of the patient showed that in the position of the portio vaginalis there was now a dense-walled, easily bleeding, cup-shaped excavation, and above the sphincter and on the anterior wall of the rectum a tumour could be felt, very painful when touched, and of the size and shape of a pear. The abdomen was extraordinarily painful and palpation through its walls was impossible.

I was in despair and unable to offer any suggestion. In this extremity I applied to Professor Adamkiewicz in the middle of June. After he had seen the patient and examined her he pronounced the case to be too far advanced and declined to recommend any treatment, but on my earnest entreaty he reconsidered his decision. He gave the first injections of cancroin himself, prescribed the manner in which they were to be continued, and then left me to give them in accordance with a system adapted to their action and effects.

This treatment was a brilliant success. The hæmorrhage and abdominal pains disappeared promptly. On the second day of the injections the patient sat up in bed free from pain and quite at ease, and took her breakfast with relish. She soon had an excellent appetite and all kinds of food agreed with her. Fæces and urine were passed without pain; her strength increased; her condition improved manifestly; and a feeling of tranquillity and of confidence in her recovery did the rest. Repeated local examinations made at a subsequent period showed that the tumour which had formed above the sphincter and on the anterior wall of the rectum had entirely disappeared, and its former position was no longer indicated even by a sensation of resistance. The excavation in the cervix had become smaller and was smooth-walled. The patient, who four weeks previously could not move herself in bed, had now left her bed, walked freely about the house, and intended one of these days to go into the country quite cured.

I have to express my heartfelt thanks to Professor Adamkiewicz for saving my patient who had been given up by all the medical men previously called in consultation.

DR. KARL STOCK.

Vienna, VII. Burggasse 70, July 31st, 1901."

To the foregoing narrative, written by the medical man in attendance on the patient, I have to add what follows.

When I saw the patient for the first time in the middle of June, 1901, she had an earthy complexion and lay in bed shivering, lamenting, and dreading every movement. There was a cooling application on her abdomen which was distended, painful, and unable to bear the slightest touch. In the end of July—namely, after only six weeks' treatment with cancroin—I found her handsomely dressed, walking freely about the house, conversing cheerfully, free from pain, full of happiness and enjoyment of life. She was not only saved from impending death, she was restored to health. In the meantime I directed as a measure of precaution that the injections should be continued in a modified form in the country place to which she was going for the completion of her convalescence, but the carrying out of these orders was interrupted by an incident which was no less remarkable than unexpected, for certain females in whose care she was placed induced her to make a will in their favour and then persuaded her that it would be better for her not to allow the injections to be continued.

In the middle of August she complained of dysuria and tenesmus, and examination showed the existence of a doughy and very painful swelling of the uterus. It was immediately obvious to me that colonies of cancer coccidia, survivals from the previous illness, had subsequently attained further development and that the inflammation of the uterus must be due to them. I immediately gave most positive directions that the injections of cancroin should be resumed, but for the reasons already mentioned these orders were disregarded, and so the metritis had time to assume dimensions which threatened the patient's life. The pain which she suffered caused her to scream and almost drove her out of her mind; when she had an attack of it she could not stand or lie down or sit, and

[1] Berliner Klinische Wochenschrift, 1901 No. 23.

the only position which was at all supportable for her was when she leaned over the back of a chair and remained hanging on it in a half-upright attitude for hours at a time, occasionally for five or six hours. By good fortune for the patient there was a member of her family who was strong enough to break up the conspiracy which had been formed against her life and my treatment, and the moment that the injections of cancroin were resumed the metritis gave way as if at the word of command and the patient began to recover her health. The tenesmus and dysuria vanished. The uterus, the fundus of which could not on its upper side be reached from the rectum, was once more able to be palpated, and in the beginning of October—i.e., after hardly four weeks of the resumed treatment with cancroin—it was again changed to a small, hard, uneven, globular mass, easily defined with the finger and no longer painful. Since that time the patient has had no pains; she can move about quite well, can sit and lie down, and can empty her bladder and rectum without discomfort. Painful contractions of the uterus and painful micturition attended by cramps are occasionally felt, when the remnants of the cancer devitalised by the cancroin recover themselves; but the intervals between these attacks become longer as time goes on. When the attack of cramp is over not the slightest sign of ill-health, either subjective or objective, is recognisable in the patient. She is therefore to be regarded not only as being in good health at the present time but as having been on two occasions saved by cancroin.

Vienna.

THE TRIAL, EXECUTION, NECROPSY, AND MENTAL STATUS OF LEON F. CZOLGOSZ,

ALIAS FRED NIEMAN, THE ASSASSIN OF PRESIDENT MCKINLEY.

BY CARLOS F. MACDONALD, A.M., M.D.,

PROFESSOR OF MENTAL DISEASES AND MEDICAL JURISPRUDENCE IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE; EX-PRESIDENT OF THE NEW YORK STATE COMMISSION IN LUNACY.

With a Report of the Post-mortem Examination,

BY E. A. SPITZKA,

OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

THE terrible shock which the assassination of President McKinley by Leon F. Czolgosz at Buffalo, New York, on Sept. 6th, 1901, imparted to the entire civilised world, and which naturally engendered in the public mind a mingled feeling of horror, vindictiveness, and revenge—a feeling which was exceeded only by the profound sense of sorrow and depression which took possession of the people when a few days later it was realised that, despite the highest efforts of surgical and medical skill, a fatal result to the distinguished victim was inevitable—naturally suggested, both to the lay and to the medico-legal mind, the need of inquiry as to the mental status and responsibility of the perpetrator of so repulsive and atrocious an act. Moreover, there are many persons who are disposed to hold that the enormity of such a crime is in itself sufficient evidence to warrant the opinion of the existence of insanity, merely because it seems to them inconsistent with the principles of ordinary rational conduct, even though aside from the act itself there be nothing in the entire life and conduct of the individual that is suggestive of mental disease. On the other hand, there are many who, in view of the magnitude of the crime, would oppose the granting of exemption from the ordinary consequences of capital offences, even though the offender were a raving maniac. Suffice it to say that the position taken by such persons in either case is untenable and would be an untrustworthy test of responsibility as regards the ends of justice, whether viewed from a legal or a medical standpoint. It need scarcely be said that the question as to whether or not a certain act is the offspring of mental disease cannot always with safety be determined by the act itself but must be determined by all the attendant circumstances leading up to, and surrounding, the act. "An act of violence," says Ray, "must not be attributed to insanity merely because to a person of high culture and correct morals it seems inexplicable on the ordinary principles of human conduct."

According to the Code of Criminal Procedure of the State of New York, Section 21, the legal test of mental unsoundness, as applied to criminal cases, is based on the assumption that insanity is a question of law to be determined by the court, and that the question of responsibility in mental disease hinges upon a knowledge of right and wrong as to the particular act at the time it was committed; whereas medical science holds that insanity, in its relation to crime, is always a question of fact to be determined like any other fact in evidence, aided, of course, in such case by the interpretation of expert opinion and evidence, and that whenever its presence can be so determined the accused should be absolved from responsibility, irrespectively of the form or degree of his mental disease or of the nature of the act committed. "All that medical science has to do in any such case," says Dr. John P. Gray, "is to say whether the deed springs from disease or not. If it does not the man is responsible, however ghastly, seemingly purposeless, or vindictive the act may be." In other words, medical science holds that the whole question of responsibility should rest upon the presence or absence of mental disease, and not upon a knowledge of right and wrong as regards the nature and consequences of the act in question, and that that which in fact is a condition of mental disease cannot in law be a condition of mental health. The question to be determined then, in the case of Czolgosz, from the legal standpoint, as embodied in the Code of Criminal Procedure of the State of New York, was: When he shot the President did he know the nature and quality of the act he was doing and that the act was wrong? If this question could be determined in the affirmative, then he was responsible under the law and punishable for the offence which he committed, even though he was medically insane, so to speak. On the other hand, the question to be determined from the standpoint of medical science was: Was Czolgosz at the time he committed the act a victim of mental disease or mental unsoundness? If so, according to the dictum of medical science, he was not responsible and hence not punishable for the act which he committed. These are the sole questions upon which the guilt or innocence of the accused must rest, whether in the eyes of the law or in the judgment of medical science, and it follows logically that if he were guilty of crime owing to the absence of mental disease he was equally guilty within the intent and meaning of the statute. Such being the case the subject of the responsibility of the accused resolves itself into a question of health or disease—sanity or insanity. Hence the application of the legal test may be dismissed from further consideration here, and we may proceed to consider the question of his responsibility from a medical point of view.

THE TRIAL.

The trial of Czolgosz, which took place in the city of Buffalo, New York, on Sept. 23rd and 24th, 1901, the Hon. Truman C. White being the presiding justice, was neither attended by delay "nor harassed by the trivial technicalities of the law." The "machinery of justice" moved so smoothly and so rapidly that the jury was procured, the case tried, and a verdict of "Guilty" rendered within a period of two court days with sessions from 10 to 12 o'clock in the forenoons and from 2 to 4 o'clock in the afternoons, the time actually occupied being eight and a half hours in all. The proceedings were marked by no melodramatic or sensational episodes or unseemly wrangle among counsel; while the fact that, under the extraordinary circumstances, the trial was not anticipated or interrupted by any riotous demonstration against the prisoner—any attempt at mob or lynch law—when he appeared in public affords striking proof of the respect for law and order which prevails in the community where the trial was held. Czolgosz was brought into court closely guarded by a double cordon of police and handcuffed to an officer on either side. He was neatly dressed and cleanly in appearance, his face being clean-shaven and his hair neatly combed

The preparation and trial of the case on the part of the people by the Hon. Thomas Penny, district attorney, and his assistant, Mr. Haller, were well-nigh faultless. Shortly after his arrest the district attorney procured from Czolgosz a statement several pages in length which was taken down in longhand, in narrative form, each page of which he signed after himself making corrections and revisions as to matters which he claimed the reporter had misapprehended. This statement gave in detail facts concerning his premeditations and preparations for the crime, also his movements for some

time prior and up to the time of the shooting. The district attorney, also within a few hours after the crime was committed, proceeded to put the prisoner under the observation of local experts in mental disease—namely, Dr. Joseph Fowler (police surgeon), Dr. Floyd S. Crego, and Dr. James W. Putnam. These physicians had free access to him down to and during the trial, covering a period of nearly three weeks, during which they examined him repeatedly and made a careful study of his case with reference to his mental condition. The district attorney also permitted the experts on either side to confer together freely, and allowed those for the defence to have free access to all facts and information relative to the case in his possession—a proceeding which in effect was equivalent to the appointment of a commission of five experts, three for the prosecution and two for the defence, to determine the prisoner's mental condition. This course on the part of the district attorney marks a new departure in the methods of getting expert evidence in criminal trials where the question of mental responsibility is involved which is to be highly commended as a practical measure tending to eliminate much superfluous testimony and at the same time to minimise the danger of contradictory expert opinions.

In view of the great importance of the case it is regrettable that no experts were called to testify on the trial as to the prisoner's mental condition in order that it might appear on the record of the trial that his mental state was inquired into and determined by competent authority. Had the experts on either side been given the opportunity of thus stating officially their unanimous conclusion, together with the grounds on which it was based and the methods by which it was reached, it would have left in the public mind no room for reasonable doubt as to its absolute correctness, and that it had been arrived at only by the rules of professional conduct governing the examination of such cases.

The attorneys assigned by the court to the defendant, at the request of the Bar Association of Erie County, were ex-judges Loran L. Lewis and Robert C. Titus, both prominent lawyers and highly respected citizens of Buffalo. For obvious reasons these gentlemen were reluctant to undertake what they regarded as a most distasteful task, and consented to do so only from a high sense of duty to the public, at the urgent solicitation of the President—the Hon. Adelbert Moot—and other prominent members of the Bar Association, on Saturday, Sept. 21st, preceding the trial, which began on Monday, the 23rd.

Respecting the defence, it appears that substantially no preparation was made beyond a fruitless effort of counsel to confer with the prisoner and the examinations made of him at their request by Dr. Hurd and the writer with reference to his mental condition, and a verbal statement by them to counsel of their conclusion that he was not insane. It also appears that no plea was entered by the attorneys for the defence, but Czolgosz, speaking for the first time in court, entered a plea of "Guilty" to the indictment, which plea the court promptly rejected and directed that one of "Not guilty" be entered on the record for the defendant.

Each juror on qualifying said, in answer to the usual question, that he had formed an opinion as to the guilt of the prisoner, but that his opinion could be removed by reasonable evidence tending to show that the defendant was innocent. And yet, to one accustomed to being in court and observing jurors when qualifying, it was difficult to avoid the impression that each of the jurors in this case held a mental reservation to convict the prisoner. Had Czolgosz been on trial for the murder of a common citizen instead of the President it is safe to say that not one of the jury as completed would have been accepted by the defence, and instead of getting a jury in approximately one and a half hours, that feature of the trial alone would probably have occupied several days.

Having in view the nature and importance of the case, the fact that no testimony was offered on the defendant's behalf and that practically no defence was made, beyond a perfunctory examination of jurors and a mild cross-examination of some of the people's witnesses which was limited to efforts to elicit information respecting the President's condition during his illness and of his body after death, and a summing-up by one of the counsel—Judge Lewis—which consisted mainly of an apology for appearing as counsel for the defendant and a touching eulogy of his distinguished victim, render the case in this respect a unique one in the annals of criminal jurisprudence.

The jury retired for deliberation at about 4 P.M. and returned in less than half an hour with a verdict of "Guilty of murder in the first degree." Czolgosz heard the verdict of the jury standing and without appreciable display of emotion. Several of the jurors were reported to have said after the trial that the jury was in favour of conviction unanimously from the first and could have rendered a verdict without leaving their seats, but deemed it best to make a pretence of deliberation "for appearance' sake." Czolgosz was remanded to gaol for two days and on Thursday, Sept. 26th, he was sentenced to be executed by electricity at Auburn Prison in the week beginning Oct. 28th, 1901.

When Czolgosz returned to his cell after his conviction he ate a hearty supper and soon thereafter went to bed and slept continuously till midnight, when the guard was changed, when he awoke for a few minutes and then slept again until 6 A.M., when he arose and had a short walk in the cell corridor, after which he made a careful toilet and at 7.30 A.M. partook of a hearty breakfast. He talked freely, as usual, on ordinary topics, but maintained his usual silence respecting his crime and would not talk of the trial or the verdict. On Thursday, Sept. 26th, he was removed from the Buffalo gaol to the State Prison at Auburn, New York, where he was confined in a "death cell" until his execution took place.

THE EXECUTION.

Czolgosz was executed by electricity on the morning of Oct. 29th, 1901. The official witnesses, consisting of the Superintendent of State Prisons and other prominent New York State officials, several physicians, three representatives of the respective press associations, Mr. Spitzka and others, and the official physicians—Dr. John Gerin, prison physician, and myself—having been assembled in the execution-room and having received the usual admonition from the warden as to maintenance of order during the execution, the prisoner was conducted to the room a few minutes after 7 A.M. Every precaution was taken by the warden, who had immediate charge of the execution, to minimise the opportunity for notoriety or sensationalism on the part of the prisoner as well as to insure that his taking off should be effected in an orderly and dignified manner.

As Czolgosz entered the room he appeared calm and self-possessed, his head was erect and his face bore an expression of defiant determination. The guards, one on either side, quietly and quickly guided him to the fatal chair, the binding straps were rapidly adjusted to his arms, legs, and body, and the head and leg electrodes were quickly placed *in situ* and connected with the wire which was to transmit the lethal current through his body. These preliminaries occupied about one minute. Czolgosz offered no resistance whatever, but during the preparations addressed himself to the witnesses in a clear distinct voice in the following significant language: "I killed the President because he was the enemy of the good people—the good working people. I am not sorry for my crime. I am sorry I could not see my father." At this moment, everything being in readiness, the warden signalled the official electrician in charge of the switch, who immediately turned the lever which closed the circuit and shot the deadly current through the criminal's body, which was instantly thrown into a state of tonic spasm involving apparently every fibre of the entire muscular system. At the same time consciousness, sensation, and motion were apparently absolutely abolished. Two electrical contacts were made, occupying in all one minute and five seconds. In the first contact the electro-motive pressure was maintained at 1800 volts for seven seconds, then reduced to 300 volts for 23 seconds, increased to 1800 volts for four seconds, and again reduced to 300 volts for 26 seconds—one minute in all—when the contact was broken. The second contact, which was made at the instance of the writer as a precautionary measure, but which was probably unnecessary, was maintained at 1800 volts for five seconds. That conscious life was absolutely destroyed the instant the first contact was made was conceded by all of the medical witnesses present; also that organic life was abolished within a few seconds thereafter. Czolgosz was pronounced dead by the attending physicians and several of the other physicians present, after personal examination, in four minutes from the time he entered the room; one minute of this period, as already stated, was occupied in the preliminary preparations, one minute and five seconds in the electrical contacts, and the remainder of the time in examinations by the physicians to determine the fact of death. The physicians present at the execution and at the necropsy were

Dr. H. O. Ely of Binghamton, New York; Dr. W. A. Howe of Phelps, New York; Dr. G. R. Trowbridge of Buffalo, New York; Dr. W. D. Wolff of Rochester, New York; and Dr. C. R. Huntley of Buffalo.

THE NECROPSY.

The necropsy was made by Mr. Edward A. Spitzka under the direction of the official physicians, Dr. Gerin and myself. The examination occupied about four and a half hours and embraced a most careful gross examination of all the viscera, attention being especially directed to the brain and its meninges. The accompanying masterly description of the post-mortem findings, and especially of the condition and anatomical structure of the brain, by Mr. Spitzka, leaves nothing to be said here upon this point beyond the fact that the necropsy revealed no evidence whatever of disease or deformity of any of the bodily organs, including the brain, which was normal in size, shape, weight, and appearance, and was well developed in all respects, a conclusion which was concurred in by all of the physicians present, several of whom had witnessed the execution. In deference to the expressed wish of the relatives of Czolgosz, and for reasons of a sentimental nature on the part of the State authorities, the prison warden declined positively to allow any portion of the body to be removed from the prison. Consequently, and regrettably, it was impossible for the examiners to retain honourable possession of any portion of the brain for microscopical examination and study. Accurate measure-

FIG. 1.

Full-face view of the plaster-cast of the assassin Czolgosz. Unfortunately the left ear in the mould had been broken during transportation from Auburn to New York, and the fragments were pieced together with difficulty. The defects have been rectified in the photograph. On the subject the ears were perfectly symmetrical both as to form and size.

ments, however, of the head and its appendages, of the face and of the exterior and interior of the skull, together with detailed anatomical drawings and descriptions of the brain were made; also plaster moulds of the head from which a cast was subsequently made, and photographs of the same—full face and profile—were taken. These measurements, together with plates of the drawings and photographs, are presented in Mr. Spitzka's report of the necropsy.

In view of its great importance both to medical science and to medical jurisprudence I regard it as fortunate that the State was able to secure the services of so able a brain anatomist and skilled operator and draughtsman as Mr. Spitzka to make the post-mortem examination.

THE MENTAL STATUS OF CZOLGOSZ.

On Thursday, Sept. 19th, 1901, I received a telegram requesting me to meet Mr. Adelbert Moot, President of the Erie County Bar Association, in Buffalo, New York, on the following morning. On my arrival in Buffalo the next day

FIG. 2.

Profile view of the cast.

Mr. Moot informed me that he had sent for me for the purpose of requesting me to inquire into the mental condition of Leon F. Czolgosz, confined in the Buffalo gaol under indictment for the murder of President McKinley, and whose trial was to begin on the following Monday. Mr. Moot further stated in substance that three local experts had already examined the prisoner for the district attorney, but in view of the enormity of the offence and the fact that there obviously could be no legitimate defence other than insanity it was deemed important in the interests of justice that his mental condition should be investigated by other experts acting in behalf of the defence, or at least independently of the prosecution, to the end that the prisoner should be accorded every legal right, there being no desire to convict him if he were not mentally responsible, and that I had been selected for this responsible duty. With a deep sense of the responsibility involved I consented to act, provided that it should be distinctly understood that I was not there as a partisan expert in behalf of either side, but simply in a professional capacity to aid in determining the real mental state of the prisoner, and providing, further, that my selection would be acceptable to the eminent counsel whom the Bar Association had selected for the defence, should they decide to accept that duty, a matter which was then undecided. On the following morning (Saturday) Mr. Moot informed me that the gentlemen referred to had consented to act and invited me to meet them in conference, which I did, and which resulted in their requesting me to proceed at once to examine

into the prisoner's mental condition and to report my conclusion to them as soon as I had reached one. They also assented readily to my proposal to invite Dr. Arthur W. Hurd to become associated with me professionally in the case, Dr. Hurd being the superintendent of the Buffalo State Hospital for the Insane and a competent alienist of large experience in mental diseases. It was also agreed that we should be allowed to confer freely with the district attorney and with the experts for the people after completing our personal examination of the prisoner. Being unable to establish communication with Dr. Hurd before evening of that day, and in view of the short time intervening before the trial, I decided to make a preliminary examination of Czolgosz alone, and did so that afternoon in the district attorney's office, first disclosing to him my identity and the object of my interview, and informing him of his legal right to decline to answer any question that I might ask him. I examined him again on the following day (Sunday) in the gaol jointly with Dr. Hurd and in the presence of one of his guards, who was questioned at length respecting his observations of him in the gaol, as to his habits of eating, sleeping, talking, reading, &c. We subsequently interviewed the district attorney and the superintendent of police, General Bull, who gave us all the facts and information in their possession respecting the case. The statement which Czolgosz made to the district attorney shortly after his arrest throws much light on his mental condition on the day of the crime, but that official deemed it his duty to refuse to allow me to publish it. We also conferred at length with the people's experts, Dr. Fowler, Dr. Crego, and Dr. Putnam, who stated to us separately and in detail their observations and examinations of him. We also observed him carefully in the court-room throughout the trial. After our examination of Czolgosz on Sunday we reached the conclusion, independently of each other, that he was sane, and we so informed his counsel on Monday morning before the trial began.

It should be said that owing to the limited time—two days—at our disposal prior to the trial, and the fact that his family relatives resided in a distant State and were not accessible for interrogation, we were unable to obtain a history of his heredity beyond what he himself gave us.

Czolgosz, as he appeared at the time of my examinations of him at Buffalo, may be described as a well-nourished, rather good-looking, mild-mannered young man with a pleasant facial expression; features regular; face smooth-shaven and symmetrical; mouth and ears well formed and symmetrical; teeth, none missing but in poor condition from neglect; tongue clean; palate, fauces, and uvula normal in appearance; eyes blue and normal in expression; pupils equal in size and normally responsive to light and accommodation; hair light brown and slightly curly; stature medium, five feet seven and a half inches; and weight, estimated, about 140 pounds. The extremities were in all respects normal. The external genitals were normal, excepting two small, flat, unindurated cicatrices on the mucous surface of the prepuce, probably the result of previous chancroids, although he denied having had venereal disease other than gonorrhœa. There were no signs of specific nodes or periosteal tenderness over the usual sites of these lesions, nor was there any evidence upon the head or body of traumatism, excepting a slight deviation of the nose due to a blow which he received at the time of the assassination and a superficial perpendicular cicatrix on the left face which he said was the result of a slight injury which he received when working in a barbed wire factory. There were no tremors or twitchings of the facial muscles, the tongue, or the hands. The pulse, the temperature, and the skin were normal, as also were the special senses, the knee reflexes, coördinating power, and the sensory and motor functions. Finally, a careful inspection of the entire visible body failed to reveal the presence of any of the so-called stigmata of degeneration. The almost perfect symmetrical development, especially of the head and face, is a noteworthy feature in Czolgosz's case, although had deviations been found the fact would have had little weight as tending to show mental disease or degeneracy, as marked asymmetries, both cranial and facial, are frequently observed in persons who are quite sane and are above the average in mental capacity. (Figs. 1 and 2.)

In answer to questions Czolgosz stated, in substance, that he was born in Detroit, Michigan, of Polish parents; that he was 28 years of age, was unmarried, and was a labourer by occupation; that he was a Romanist originally, but had abandoned that faith several years ago because he no longer believed in it; that he attended the common schools as a boy and had learned to read and to write; that he had used beer and tobacco, but not to excess; that he had done various kinds of unskilled labour such as farming, factory-work, &c.; that his mother was dead, and that his father, one brother, and a married sister were living; that, so far as he knew, there was no insanity in his family, and that he had not suffered any serious illness or injury during his life-time; that he had never been subject to fits, spasms, or vertigo; and that he usually ate and slept well, and that his bowels were always regular. He admitted having had sexual intercourse with women, but denied masturbation or other unnatural practices. Careful inquiry failed to elicit any evidence of delusion, hallucination, or illusion. When questioned as to the existence of enemies, persecutions, or conspiracies against him, he replied in the negative. He evinced no appearance of morbid mental depression, morbid mental exaltation, or of mental weakness or loss of mind; nor did he display any indication of morbid suspicion, vanity, or conceit, or claim that he was "inspired" or had "a mission to perform," or that he was subject to any uncontrollable impulse. In fact, as regards the existence of evidences of mental disease or defect, the result of the examinations was entirely negative. On the contrary, everything in his history, as shown by his conduct and declarations, points to the existence in him of the social disease, anarchy, of which he was a victim.

My last examination of Czolgosz was made jointly with Dr. Gerin, physician of Auburn Prison, the evening before his execution. This examination revealed nothing either in his mental or physical condition which tended to alter the opinion which I gave to his counsel at the time of his trial—namely, that he was sane—an opinion which was concurred in by all of the official experts on either side—namely, Dr. Fowler, Dr. Crego, and Dr. Putnam, for the people, and Dr. Hurd and myself for the defence, also by Dr. Gerin, the only other physician who examined him. Furthermore, the prisoner's manner, appearance, and declaration in the execution room, together with the post-mortem findings, corroborated most conclusively the original opinion as to sanity, while his dying declarations that he killed the President because he regarded him as "an enemy of the good people—the good working people," and that he was not sorry for his crime, all tend to stamp him as an anarchist. In fact, his bearing and conduct from the time of the commission of the crime to his execution were entirely consistent with the teachings and creed of anarchy. Moreover, neither the three careful personal examinations which I made of him—one alone, one with Dr. Hurd, and one with Dr. Gerin—the measurements of his body by the Bertillon system, nor the post-mortem findings, disclosed the slightest evidence of mental disease, defect, or degeneracy. This opinion is confirmed by the people's experts who repeatedly examined him and observed him from time to time from the day of the assassination to the close of the trial, and by Dr. Gerin, the physician of Auburn Prison, who observed him carefully during the four weeks that he was in that institution awaiting execution. Dr. Gerin has had exceptional opportunity for the study of criminals, both sane and insane, in his capacity as prison physician and previously as assistant physician at the State Hospital for the Criminal Insane.

If Czolgosz was a victim of mental disease the question would naturally arise as to what form of that disorder he was suffering from. If in answer to this question we undertake to make a diagnosis by exclusion we find the following results. There was absolutely no evidence of insane delusion, hallucination, or illusion. There was none of the morbid mental exaltation or expansiveness of ideas that would suggest mania in any form, none of the morbid mental gloom and despondency of melancholia, none of the mental weakness of dementia, none of the conjoined mental or motor symptoms that are characteristic of paresis, nor was there anything in his manner, conduct, or declarations that would suggest the morbid vanity and egotism, the persecutory ideas or the transformation of personality which usually characterise paranoia or systematised delusional insanity. In fact, at no time during the period from his arrest to the time of his execution did he exhibit any of the mannerisms, boastful display, &c., or claim to have a "Divine inspiration" or "a mission," or make any complaint or suggestion of personal wrongs and persecutions

which are so characteristic of paranoiacs; nor did he, during his trial, or subsequently, evince any indication of satisfaction or delight at being the central figure of the occasion and the observed of all observers, which he was; nor was there any attempt on Czolgosz's part to simulate mental disease. The refusal to talk with his counsel was perfectly consistent with the views which he expressed to the district attorney soon after his arrest—namely, that he did not believe in law and that he wanted no counsel. He did, however, converse with others—namely, the district attorney from time to time before his trial, also with his guards at the Buffalo gaol, with whom he frequently walked in the corridor fronting his cell for an hour or two at a time, conversing with them intelligently the while and making his wants as to bathing, toilet, tobacco, &c., known in a natural manner. He also conversed freely with the people's experts in their earlier examinations of him, and talked, though not so freely, with Dr. Hurd and myself, and when on arraignment for trial and formally asked to plead he promptly arose from his chair and answered in a clear voice, "Guilty." He also responded promptly when directed by the clerk of the court to "stand up and look upon the juror" as each of the jurors was sworn, and resumed his seat in each instance at the proper time. Beyond this he remained mute while in the court-room, and yet to anyone who observed him closely it was apparent that he was fully aware of, and attentive to, the proceedings.

A recent writer—an eminent alienist—discussing the mental state of Czolgosz says:[1]

> We can perceive no indications of mental disease in Czolgosz, and were the absurdity of his statements and acts to be a criterion of mental unsoundness we should have to establish a new category of insanity for the reception of the various groups of anarchists, not to mention other terrorists. ..... We deem it an error to regard Czolgosz's mutism in court when called on to plead and before his counsel as an attempt to simulate insanity. This conduct is in line with his rôle expressed in the theatrical declaration: "I am an anarchist and have done my duty." As it was his "duty" to slay the President it is his duty to go to death with his lips sealed, and with this intent first the plea of guilty and his conduct are perfectly consistent. He shows no reluctance to converse on matters disconnected from the crime, nor even of matters connected therewith provided they do not touch its preparations and thus betray his associates.

Aside from his reticence to his counsel there was nothing in Czolgosz's manner, appearance, or declarations that was indicative of insanity or of simulating. His reticence towards his counsel, as already intimated, was entirely consistent with his expressed disbelief in government and in law and his declaration that he shot the President with a clear knowledge of the nature and consequences of the act; and while he pleaded guilty in court and also proclaimed when he went to his death his reason for committing the crime, and declared that he was not sorry therefor in a manner which clearly implied that he regarded the act as a justifiable one, he did not claim that it was not a crime on his part, as paranoiacs usually do, nor did he in any way indicate that he regarded himself a victim of conspiracy or persecution. On the contrary, he declared to the people's experts that he fully understood what he did when he shot the President and was willing to take the consequences: "I know what will happen to me if the President dies—I will be hung." Justice White, commenting on Czolgosz's plea of "Guilty" when arraigned for trial—a plea which could not be accepted under the law—said: "The prisoner's plea of guilty indicates that he himself anticipates no escape from the penalty which the law prescribes for a crime of the character alleged in the indictment." Again, Czolgosz said: "I done my duty; I don't believe in voting; it is against my principles. I am an anarchist." He further said that he had been an ardent student of the doctrine of anarchy and had attended many "circles" where these subjects were discussed; that he had attended a meeting of anarchists "about six weeks ago" and also in July; that he had met and talked with an anarchist in Chicago about 10 days ago; that he belonged to a "circle" in Cleveland which had no name—"They called themselves anarchists"; and that he went to Cleveland "on no particular business" the Friday before the assassination. He had been in Buffalo for two or three weeks prior to going to Cleveland. "I planned to kill the President three or four days ago; after I came to Buffalo [from Cleveland]. I don't believe in the Republican form of government and I don't believe we should have any rulers. I had that idea when I shot the President, and that is why I was there."

In explanation of his abandonment of his religious faith and his rejection of the services of a priest Czolgosz said the night before his execution: "I would like the American people to know that I had no use for priests. My family are all Catholics and used to go to church until the hard times of 1893. We had been taught by the priests that if we would pray God would help us along, but it did no good; it didn't help us and we stopped going to church at that time." He also said at this interview: "McKinley was going around the country shouting prosperity when there was no prosperity for the poor man. I am not afraid to die. We all have to die sometime."

It may be said that Czolgosz's belief which he expressed as he went to his death, that the President "was an enemy of the good working people," was a delusion, and such it undoubtedly was in the broadest sense of that term; that is, it was a false belief, but it was in no sense an insane delusion or false belief due to disease of the brain. On the contrary, it was a political delusion, so to speak—a false belief founded on ignorance, faulty education, and warped, not diseased, reason and judgment—the false belief which dominates the politico-social sect to which he belonged and of which he was a zealot, who in common with his kind believes that all forms of government are wrong and unnecessary—a body of malcontents whose teachings oppose all government and who advocate the use of violence to destroy the existing social and civil order of things. By his own admissions Czolgosz was a devout anarchist and a firm believer in the principles of "free society" as taught by Emma Goldman, of whom he was an ardent admirer, and others. These were the beliefs which furnished the motives for the murderous deed.

That Czolgosz was an anarchist and was actuated in his crime by the motives which spring from the teachings of that sect are clearly shown by the following. 1. His declarations after his arrest—namely, that he did not believe in any form of government or law and that all rulers were tyrants who ought to be put down. 2. His admissions to the district attorney that he was a member of anarchistic societies or circles and had frequently attended the meetings of the same; also that he had been influenced in his views by the "lectures" of Emma Goldman, and that when apprehended anarchistic literature was found on his person. 3. The recognition and commendation which he has received at the hands of anarchists at their meetings both in this country and abroad since his death, several of these societies having openly recognised him as such and lauded his action. The anarchists' creed teaches that when one of their number is selected to do a certain deed he is to proceed about it quietly and in his own way, taking no one into his confidence; that, having accomplished the deed, if apprehended he shall not admit his connexion with any other members of the circle; that if convicted and sentenced to die he shall go to his death without revealing his connexion with others, resting secure in the belief that he will be ever regarded by his associates as a martyr and a hero who died in the discharge of a noble duty. The course and conduct of Czolgosz from the beginning down to his death are entirely in keeping with this creed. And, finally, the cool and courageous manner in which he met his death, and the fact that from the day of his arrest until he died he never uttered a word that could be used against his accomplices, if he had any, and that he died—as anarchists who suffer the death penalty always die—without uttering a word that would tend to incriminate any of his co-conspirators, all tend to stamp him as an anarchist.

Having viewed the case in all its aspects, with due regard to the bearing and significance of every fact and circumstance relative thereto that was accessible to me, I record the opinion unqualifiedly that Leon F. Czolgosz on Sept. 6th, 1901, when he assassinated President McKinley, was in all respects a sane man, both legally and medically, and fully responsible for his act.

(To be continued.)

[1] "The Mental Status of Czolgosz and Assassins Generally," by E. C. Spitzka, M.D., The Medical Critic, November, 1901.

HEALTH OF HONITON RURAL DISTRICT.—Dr. F. M. Reynolds, the medical officer of health of the Honiton (Devon) Rural District, reports that in 1901 the deaths were 120 and the births 220, which, calculated on a population of 9318, corresponded to a birth-rate of 23·6 per 1000 and a death-rate of 12·8 per 1000.

THE AFTER-HISTORIES OF 100 CASES OF SUPRA-VAGINAL HYSTERECTOMY FOR FIBROIDS.

BY G. CREWDSON THOMAS, M.D., M.R.C.P.EDIN.,
LATE REGISTRAR, CHELSEA HOSPITAL FOR WOMEN.

ALTHOUGH much has been written recently about the operation of supra-vaginal hysterectomy for fibroids, comparatively little has been published about the after-results of this operation upon patients. For this reason I have conducted an inquiry into the after-histories of all the patients at the Chelsea Hospital for Women who have, during a definite period, had the operation of supra-vaginal hysterectomy performed on them. Unfortunately, I have been unable to carry my researches further back than May, 1896, as it was at that date that supra-vaginal hysterectomy commenced to be the operation of choice at Chelsea, and I have continued them up to June, 1900. During that time there are 117 cases available for investigation, of which the earliest ones have an after-history of five years and the latest ones of one year.

The study of the after-histories of operation cases is never an easy matter, since patients come to hospital from distant homes in the country and afterwards return, a fact which makes a personal interview with them almost an impossibility. A second difficulty is that the class from which hospital patients are drawn is constantly changing its abode and so an address which finds them one year will fail to do so the next. However, owing to the kind assistance of the staff I have been able to communicate with 100 out of the 117. The majority of these I saw personally; the remainder filled up a simple schedule which I had drawn up, and in several cases the patient's own medical attendants communicated personally with me and gave me valuable information. Of the 17 patients whom I was unable to trace personally five have been seen at the hospital at periods varying from two to three years and have all been in excellent health. The tabulated results of my inquiry are given in Table I.

Before taking up each subject and dealing with it individually three patients—Cases 4, 20, and 45—must be noticed. All these patients made successful recoveries from their operations and left the hospital in good health, but have since died. The patient in Case 4 died six months after operation quite suddenly from cerebral hæmorrhage. The patient in Case 20 was noticed to have a weak heart when in the hospital, but she bore the operation well; about a year afterwards she died from heart disease. The patient in Case 45 at the time of her operation was suffering from Bright's disease; she likewise made a good recovery, but died two years after the operation from her renal trouble. In no case can the cause of death be ascribed to the operation, and in the two cases last mentioned the condition had commenced prior to the operation. Two patients, Case 11 and Case 56, are in asylums; as their statements are untrustworthy, they are not included, but their condition will be fully referred to later.

Present condition.—The first point that I wished to investigate was the general result of the operation on the patient (1) from her own standpoint and (2) from her capacity for work. As regards the former the verdict was remarkable in its unanimity; in every case except two the benefit resulting from the removal of the tumour had, in the patient's opinion, fully compensated for any evil sequelæ, such as severe artificial menopause, constant abdominal pain, trouble in the scar, &c. Many were enthusiastic as to the relief gained, stating that they had never been so strong in their lives before and that they were enjoying perfect health. The sole exceptions were the patient in Case 31 who, having a weak constitution, took some time to rally from the operation, and the patient in Case 75 who had always suffered from great depression; as the latter patient was physically strong and healthy her personal statement as to lack of benefit could hardly be relied upon.

On estimating their capacity for work we find that out of the 95 cases available—i.e., excluding the three patients who died and the two who were mentally deranged—the result is as follows: 86 (or 90·5 per cent.) of the patients were able to perform hard work with comfort, although 12 of these cannot continue to do so for long; eight (or 8·3 per cent.) were only able to do light work; and one, for an ulterior reason, could do none. Nothing more need be said as to the 74 patients who were able to do a whole day's hard work without becoming abnormally fatigued. The fact alone testifies to the value that the operation has been to them. Case 15 is of particular interest. The patient, a professional vocalist, had been warned against the operation as, it was said, she would lose her voice. A large fibroid and two cystic ovaries were removed, but her voice, instead of becoming weaker, has increased both in power and in compass. 12 patients, although they were able to do their ordinary work with comfort, yet found that any extra exertion caused them to be easily fatigued; the majority of them are patients who have been operated upon more recently and have not yet had time to reap the full benefit of the operation. There were eight patients who were unable to do their ordinary work with comfort. The patients who were the subjects of Cases 6, 22, and 67 belonged to a restless, hysterical type; prior to operation they never possessed much energy and subsequently they have only done light work. The patient in Case 31 had always suffered from severe headaches, and these incapacitated her; the patient in Case 62 had to lead a quiet life owing to cardiac weakness; while the subject of Case 63 suffered from a floating kidney and the patient in Case 98 had been crippled by chronic rheumatism. These four patients suffered from extraneous diseases, and as far as their operation goes complete success has resulted. In Case 34 the patient has become so stout that hard work is an impossibility, and she will be referred to later. Finally, the patient in Case 33, although in complete health, was incapacitated from any work owing to total blindness. It would be difficult to find any operation which has restored such a large percentage of women to sound health as is revealed in these figures.

Post-operative pain.—The question of post-operative pain is always an important one. Of these cases 61 patients had not experienced any abdominal pain since the operation, while 31 patients stated that they had had some pain in the abdomen. In many cases this had ceased within a year. In a few it was still present but it caused them little annoyance. As a rule it was indefinite in character and depended largely on the condition of the bowel, but in no case had it been of sufficient severity to make an invalid of the patient. That the operation may have been the cause of the pain in some cases is probable, but every abdominal pain subsequently to an operation cannot be put down to that operation. In three cases only—Cases 33, 67, and 69—was the pain of a periodical description and in all these cases one ovary had been left. It was not severe and will be referred to later.

The condition of the cervix.—The condition of the cervix which has been left behind has been a subject of much discussion, many maintaining that its presence is only a source of danger. In the majority of cases in which I made a vaginal examination I found that the cervix was absolutely normal in size, and had it not been for the bimanual examination it would have been impossible to diagnose that the corpus uteri was absent. In some cases the cervix was smaller than normal and was atrophied, more especially in unmarried women who had had both their ovaries removed. Some continental writers, as Zweifel and Freund,[1] have described carcinomatous degeneration of the cervix as the result of leaving it. In none of these 100 cases was there any condition that would lead to a suspicion of malignant change commencing, and there is at present no evidence to prove that the percentage of women suffering from carcinoma cervicis is higher in those who have had supra-vaginal hysterectomy performed than it is in those who have never been operated upon.

In making investigation into the discharge that may have occurred from the cervix it was found that in 66 cases there had been no discharge. In 20 cases there had been some discharge, usually viscid and opaque, causing little inconvenience; it had ceased altogether in 11 cases. Nine patients had a periodical loss every month; the discharge was usually stained with blood and as a rule it lasted for from two to three days. In each case it is to be noted that one or both ovaries had been retained. Case 26 is curious in that the patient had a discharge every second month for two and a half

[1] German Gynæcological Congress, Berlin, 1899.

TABLE I.—SHOWING THE AFTER-RESULTS OF 100 CASES OF SUPRA-VAGINAL HYSTERECTOMY FOR FIBROIDS.

Case.	Years of age.	Date.	Operation.	Present condition.	Artificial menopause.
		1896.			
1	34	May 5th.	Both ovaries removed; good recovery.	Very good; slight left-sided pain and yellow discharge for two months; none since.	Moderate; almost passed off now.
2	45	August 10th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderate; for 10 months; ceased now.
3	52	Dec. 28th.	Both ovaries removed; uninterrupted recovery.	Very good; occasional abdominal pain; for the first four months had a yellow discharge.	Moderate; came on some time after leaving hospital.
		1897.			
4	41	Jan. 8th.	Both ovaries removed; uninterrupted recovery.	Died six months after operation from cerebral hæmorrhage.	——
5	39	Feb. 19th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderate; almost ceased now.
6	50	March 1st.	Both ovaries removed; secondary hæmorrhage on the fourteenth day; reopened; good recovery.	Fair, but can only do light work.	Slight; still some giddiness.
7	48	,, 12th.	Both ovaries removed; uninterrupted recovery.	Good, but soon tires and gets neuralgic pains in the abdomen.	Severe; lasted two years.
8	45	,, 22nd.	Both ovaries removed; uninterrupted recovery.	Very good; has had slight left-sided pain.	Moderate; slight at times still.
9	41	April 20th.	Both ovaries removed; uninterrupted recovery.	Very good; pain in the bladder and some yellow discharge for two years until a ligature was passed.	Moderate; almost ceased now.
10	43	June 14th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderate; ceased now.
11	41	,, ,,	Both ovaries left; uninterrupted recovery.	Very good till June, 1900, when the patient was removed to an asylum suffering from delusional insanity.	——
12	35	,, 27th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderate, lasting 18 months.
13	39	,, 28th.	Both ovaries left; good recovery.	,, ,,	None.
14	44	July 8th.	Left ovary retained; uninterrupted recovery.	,, ,,	Slight for two years.
15	33	,, ,,	Both ovaries removed; uninterrupted recovery.	,, ,,	Very severe at first; less now.
16	42	,, 12th.	Both ovaries removed; uninterrupted recovery.	Very good; at times a slight yellow discharge.	Moderate for two years; almost stopped now.
17	30	,, 22nd.	Both ovaries removed; uninterrupted recovery.	Very good; slight blood-stained discharge for six months after.	Moderate for six months after operation; none now.
18	32	,, 26th.	Both ovaries removed; uninterrupted recovery.	Good, but tires easily.	Severe; not yet finished.
19	44	Sept. 3rd.	Right ovary retained; uninterrupted recovery.	Very good.	Slight; lasting for the first few weeks.
20	43	,, 6th.	Both ovaries left; uninterrupted recovery.	Very good for one year, when the patient died suddenly from cardiac disease.	——
21	45	,, 10th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderately for first year; none now.
22	48	,, 13th.	Both ovaries retained; uninterrupted recovery.	Fair; has indefinite abdominal pains and had thick discharge for 10 months after operation.	Moderately; less now.
23	51	Oct. 28th.	Both ovaries removed; uninterrupted recovery.	Very good.	Slight; passing off.
24	31	Nov. 1st.	Both ovaries retained; thrombosis of the left internal saphenous vein; good recovery.	Good; at times a yellowish discharge.	None.
25	35	,, 29th.	Left ovary retained; uninterrupted recovery.	Very good.	,,
26	45	Dec. 16th.	Left ovary retained; uninterrupted recovery.	Very good; slight show every second month for two and a half years after.	None till two and a half years after the operation; since then moderate.
		1898.			
27	39	Jan. 17th.	Right ovary retained; uninterrupted recovery.	Very good.	None.
28	32	Feb. 11th.	Right ovary retained; small pulmonary embolism; otherwise good recovery.	Very good; slight show every month, lasting two days.	None.
29	40	,, 14th.	Both ovaries removed; uninterrupted recovered.	Very good; some pain in the abdomen for the first year with an intermittent yellowish discharge.	Slight.
30	33	,, 25th.	Left ovary retained; uninterrupted recovery.	Very good; slight abdominal pains at times.	None.
31	39	,, ,,	Left ovary retained; uninterrupted recovery.	Fair; incapacitated by severe headaches; is weak and nervous; occasional sharp abdominal pains.	,,
32	33	March 14th.	Right ovary retained; uninterrupted recovery.	Very good; has a regular blood-stained discharge every month.	,,
33	38	April 1st.	Right ovary retained; uninterrupted recovery.	Good as regards the operation; is totally blind; slight pains every month for the first year.	,,

TABLE I.—SHOWING THE AFTER-RESULTS OF 100 CASES OF SUPRA-VAGINAL HYSTERECTOMY FOR FIBROIDS—(*Continued*).

Case.	Years of age.	Date.	Operation.	Present condition.	Artificial menopause.
		1898.			
34	31	April 7th.	Both ovaries removed; uninterrupted recovery.	Fair; only light work owing to obesity; occasional sharp abdominal pains with discharge.	Severely; decreasing now.
35	36	,, 18th.	Right ovary retained; uninterrupted recovery.	Very good.	Very slightly.
36	41	,, ,,	Right ovary retained; uninterrupted recovery.	Very good; slight yellow discharge.	Slightly; very seldom now.
37	36	,, 22nd.	Right ovary retained; uninterrupted recovery.	Very good.	None.
38	42	May 3rd.	Right ovary retained; uninterrupted recovery.	Good, but tires easily; slight blood-stained discharge every month for two and a half years.	None till two and a half years after the operation; since then slightly.
39	40	,, ,,	Right ovary retained; slow recovery owing to drained pyosalpinx.	Very good; slight discharge and intermittent pains.	Moderate.
40	40	,, 16th.	Right ovary retained; slow recovery owing to pelvic effusion.	Very good.	None.
41	44	,, 23rd.	Both ovaries removed; uninterrupted recovery.	Very good; has a yellow discharge.	Slight; almost ceased.
42	47	June 24th.	Right ovary retained; uninterrupted recovery.	Very good.	Severe; passing off, but still slight.
43	40	July 7th.	Left ovary retained; slow recovery owing to pelvic effusion.	Very good; slight pelvic pain for the first six months.	None till two years after; since then moderate.
44	42	,, 15th.	One ovary retained; uninterrupted recovery.	Very good.	None.
45	32	,, 25th.	Five months pregnant and had Bright's disease; good recovery.	Good till two years after, when she died from Bright's disease.	—
46	46	August 1st.	Both ovaries retained; uninterrupted recovery.	Very good; a regular blood-stained monthly discharge for one and a half years.	None.
47	37	,, 8th.	One ovary retained; uninterrupted recovery.	Very good.	,,
48	29	Sept. 2nd.	Right ovary retained; uninterrupted recovery.	Good, but tires soon; has a regular monthly discharge.	,,
49	42	,, 12th.	Both ovaries removed; uninterrupted recovery.	Very good; slight pelvic pain after exertion; inclined to obesity.	Moderate; still slight.
50	49	,, 26th.	Both ovaries retained; uninterrupted recovery.	Very good.	Severely; commenced some months before the operation.
51	46	,, ,,	Right ovary retained; "white leg," otherwise good recovery.	,, ,,	Slightly.
52	42	,, 30th.	Both ovaries retained; uninterrupted recovery.	Good; slight pain in the pelvis after exertion	Moderately; almost passed off now.
53	35	Oct. 3rd.	Left ovary retained; uninterrupted recovery.	Very good.	Very slightly.
54	55	,, 10th.	Left ovary retained; uninterrupted recovery.	Very good; had some pelvic pain for a few months after; ceased now.	None.
55	43	,, 24th.	Right ovary retained; good recovery.	Very good.	Moderate; commenced some months after operation.
56	50	,, 31st.	Both ovaries removed; uninterrupted recovery.	Good till November, 1900, when the patient, who was suffering from melancholia, was placed in an asylum.	—
57	47	,, ,,	Both ovaries removed; good recovery.	Very good.	Moderately for the first year; ceased now.
58	40	Dec. 12th.	Both ovaries removed; "white leg," otherwise good recovery.	Very good; for the first two years had slight pain and discharge.	Severely ever since the operation.
59	40	,, 19th.	Right ovary retained; secondary hæmorrhage; otherwise good recovery.	Good, but soon tires; every month has a blood-stained discharge.	None.
60	42	,, 22nd.	Both ovaries removed; uninterrupted recovery.	Very good.	Severely; almost ceased now.
61	26	,, ,, 1899.	Both ovaries removed; "white leg," otherwise good recovery.	Very good; some discharge for the first year.	Moderately; ceasing now.
62	42	Jan. 23rd.	Left ovary retained; good recovery.	Fair; has a weak heart and can only do light work; slight discharge for first year.	None.
63	38	Feb. 6th.	Both ovaries retained; uninterrupted recovery.	Fair; suffers from a moveable kidney.	,,
64	37	,, 27th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderately.
65	43	,, 27th.	Both ovaries removed; uninterrupted recovery.	,, ,,	,,
66	49	March 6th.	Right ovary retained; uninterrupted recovery.	,, ,,	,,
67	54	,, 13th.	Left ovary retained; uninterrupted recovery.	Fair; only does light work; has some periodical pains and discharge.	Slightly.
68	31	,, 27th.	Right ovary retained; uninterrupted recovery.	Very good.	None.
69	28	April 3rd.	Right ovary retained; uninterrupted recovery.	Very good; slight periodical right-sided pain.	,,
70	39	,, 10th.	Left ovary retained; uninterrupted recovery.	Very good; since suffering from acute rheumatism in 1900 has had some white discharge.	Very slightly.

TABLE I.—SHOWING THE AFTER-RESULTS OF 100 CASES OF SUPRA-VAGINAL HYSTERECTOMY FOR FIBROIDS—(*Continued*).

Case	Years of age.	Date.	Operation.	Present condition.	Artificial menopause.
		1899.			
71	45	April 28th.	Both ovaries removed; uninterrupted recovery.	Good but soon tires; pelvic pains at times and slight discharge.	Moderately.
72	35	May 1st.	Left ovary retained; good recovery.	Very good.	None.
73	42	June 9th.	Both ovaries retained; uninterrupted recovery.	,, ,,	,,
74	42	,, 26th.	Left ovary retained; good recovery.	,, ,,	,,
75	49	Oct. 30th.	Left ovary retained; uninterrupted recovery.	Good, but tires easily; is very hysterical.	,,
76	44	Nov. 3rd.	Both ovaries retained; uninterrupted recovery.	Very good.	,,
77	40	,, 27th.	Both ovaries removed; uninterrupted recovery.	,, ,,	Slightly.
78	36	Dec. 4th.	Both ovaries retained; uninterrupted recovery.	,, ,,	None.
79	43	,, ,,	Both ovaries retained; uninterrupted recovery.	,, ,,	Very slightly.
80	46	,, 14th.	Both ovaries removed; pulmonary embolism; otherwise good recovery.	Very good; had some pain for the first year in the left side.	Moderately.
		1900.			
81	51	Jan. 11th.	Both ovaries retained; good recovery.	Very good.	None.
82	43	,, 15th.	Both ovaries removed; uninterrupted recovery.	Good, but tires easily; some discharge for a year.	Severely; becoming less now.
	46	,, 28th.	Right ovary retained; uninterrupted recovery.	Very good.	None.
84	32	Feb. 19th.	Left ovary retained; uninterrupted recovery.	,, ,,	,,
85	42	,, 26th.	Left ovary retained; uninterrupted recovery.	Good, but tires soon; yellow discharge for five months.	Very slight for from the first two to three months; none since.
86	56	March 8th.	Both ovaries removed; uninterrupted recovery.	Very good; slight discharge for the first five months.	None.
87	35	,, 23rd.	Both ovaries retained; uninterrupted recovery.	Very good.	,,
88	34	,, 26th.	Both ovaries removed; good recovery.	,, ,,	Severely for six months after the operation; becoming less now.
89	37	,, ,,	Both ovaries removed; uninterrupted recovery.	Good; rather depressed.	Moderately.
90	40	April 16th.	Both ovaries removed; uninterrupted recovery.	Very good; at times some discharge.	Slightly; passing off now.
91	39	,, 9th.	Both ovaries removed; uninterrupted recovery.	Very good.	Moderately.
92	29	,, 16th.	Right ovary retained; uninterrupted recovery.	,, ,,	None.
93	42	,, 23rd.	Left ovary retained; uninterrupted recovery.	,, ,,	,,
94	29	May 7th.	Both ovaries had been removed 10 months previously for disease; uninterrupted recovery.	,, ,,	Slightly since the operation.
95	40	,, 14th.	Both ovaries retained; uninterrupted recovery.	Good, but tires soon.	None.
96	36	,, 17th.	Left ovary retained; "white leg," otherwise good recovery.	,, ,,	Slightly; becoming less now.
97	42	June 25th.	Right ovary retained; uninterrupted recovery.	Very good.	None.
98	49	July 2nd.	Left ovary retained; good recovery.	Fair; has rheumatism; slight discharge.	Slightly.
99	38	,, ,,	Left ovary retained; uninterrupted recovery.	Very good.	None.
100	32	,, 3rd.	Left ovary retained; uninterrupted recovery.	,,	Very slightly.

TABLE II.—SHOWING THE SEVERITY OF THE MENOPAUSE AT VARIOUS AGE-PERIODS.

	Ovaries Removed. Age-periods.					Ovaries Retained. Age-periods.				
	20–29 years.	30–39 years.	40–44 years.	45–49 years.	50 years and over.	20–29 years.	30–39 years.	40–44 years.	45–49 years.	50 years and over.
None	—	—	—	—	1	3	18 (78·2 %).	12 (60 %).	4 (40 %).	2
Very slight	—	—	—	—	—	—	4 (17·4 %).	2 (10 %).	—	—
Slight	1	—	4 (33·3 %).	1 (14·2 %).	2	—	1 (4·3 %).	3 (15 %).	2 (20 %).	1
Moderate	1	7 (63·3 %).	5 (41·6 %).	5 (71·4 %).	1	—	—	3 (15 %).	2 (20 %).	—
Severe	—	4 (36·3 %).	3 (25 %).	1 (14·2 %).	—	—	—	—	2 (20 %).	—

years; she had had the right ovary removed, but retained the left. There were three patients—Cases 26, 38, and 46—who, having had a periodical loss for two or three years, ceased to lose at the respective ages of 47, 45, and 47 years, showing that when the uterus has been removed and the cervix is sufficiently large and healthy to make an attempt at menstruation, this discharge will cease at approximately the same age-limit as when the normal uterus is present and fulfilling its function. The remaining patients who have a periodical loss at present are all below the age of 44 years. In the later cases in which the stump has been much smaller, and in some of which the cervical mucous membrane has been completely removed, there has been no instance of this loss.

The artificial menopause.—The effect of the removal or the retention of the ovaries on the after-condition of a patient has been a subject of much discussion in recent years. The advantages of conservative hysterectomy were first advocated by Mr. Bland-Sutton[3] in 1897 and this method has now been adopted when possible by many operators. Some writers, however, still consider that the presence of the ovaries is an exaggerated benefit,[3] that the severity of the menopause depends solely upon the age of the patient,[4] and that when the ovaries are left behind they suffer from congestion, swelling, and subsequent adhesion.[5] The uncertainty in the normal menopause makes it difficult to form a standard by which to judge the artificial. Just as no two women suffer equally in their normal menopause, so it is true that no two women experience the same sensations in an artificially induced menopause. For this reason it is impossible to form any conclusions or to make deductions from a few isolated cases; a large number must be used from which a normal standard may be adduced, so that individual idiosyncrasies may be judged from their true standpoint and be classified as abnormal when found to deviate from that which occurs in the majority.

In the present statistics I have classified the condition of the patient under five divisions. The first class is those who have had "none" of the phenomena of the menopause since the operation. The second class is those who have experienced it only very slightly; by this is meant those in whom the phenomena were so mild that the patient was hardly conscious of them. The third class is "slight"—those in whom the phenomena were more definite; they never caused much trouble, but the patient realised their presence. The fourth class is "moderate"—those in whom the symptoms caused the patient considerable discomfort but never obliged her to cease her occupation. Lastly, "severe," in which the patient suffered from constant heats and flushes, headaches, and giddiness, which at times incapacitated her from work and caused great distress. The condition of the patient has been estimated as much as possible when they were at their worst. Three patients—Cases 26, 38, and 43—who only commenced to experience climacteric symptoms from two to three years after the operation have been classified as "none," and will be mentioned later.

Statistical results as to the severity of the artificial menopause are few and have been classified either—as by Kelly,[6] Werth,[7] Doran,[8] and Burckhard[9]—simply according to retention or otherwise of the ovaries, or else—as by Jordan[10]—according to the age of the individual. In Table II. both these factors have been taken into account, as the importance of the ovaries varies according to the age of the patient. I have classified the ovaries into two groups, "removal" and "retention," and have divided the years into decades, except between the important ages of 40 and 50 years, where they have been further subdivided. Of the 95 cases that are available for investigation we find that in 36 patients both ovaries have been removed and in 59 one or both ovaries have been retained. If these cases are tabulated according to the severity of their menopause, we get the result as shown in Table II.

In Table II. it will be noticed that of the 36 cases in which both ovaries were removed every patient, except one, suffered more or less from an induced menopause, whereas many of those who had an ovary retained experienced no such symptoms. In considering those who have lost both their ovaries we find that two were between the ages of 20 and 30 years. The first patient, Case 94, who had only experienced slight symptoms, had had both her ovaries removed for disease nearly one year previously to her hysterectomy. In consequence she had already passed through the worst of her artificial menopause before her second operation; for this reason her case cannot be taken as giving a straightforward result. Between the ages of 30 and 39 years there were 11 cases. Seven of these patients, or 63·3 per cent., had experienced moderate symptoms, and four, or 36·3 per cent., had suffered from severe symptoms of their menopause. Between the ages of 40 and 44 years there were 12 patients. Four, or 33·3 per cent., suffered slightly; five, or 41·6 per cent., suffered moderately; and three, or 25 per cent., had severe symptoms. Between the ages of 45 and 49 years there were seven patients. One patient, or 14·2 per cent., suffered slightly; five patients, or 71·4 per cent., moderately; and one, or 14·2 per cent., severely. Above the age of 50 years there were four patients. One only (Case 86) had both her ovaries removed and she experienced no ill-effects. This patient was 56 years of age when she was operated upon and she had passed through the menopause four years previously. Of the others two had suffered slightly and one moderately.

In turning to the 59 cases in which one or both ovaries had been conserved we find that not one of the three patients between the ages of 20 and 29 years had experienced any vasomotor disturbance. Between the ages of 30 and 39 years 23 patients had been operated upon. Of these 18, or 78·2 per cent., had had no symptoms whatever; four, or 17·4 per cent., had been conscious of very slight disturbance, but practically of no importance; and one, or 4·3 per cent., had had slight symptoms. Between the ages of 40 and 44 years 20 patients were under observation. Of these 12, or 60 per cent., had had no symptoms; two, or 10 per cent., had suffered very slightly; three, or 15 per cent., had had slight symptoms; and three, or 15 per cent., had suffered moderately from flushes and heats and their concomita. Between the ages of 45 and 49 years 10 patients had been operated upon. Of these four, or 40 per cent., had had no symptoms; two, or 20 per cent., had suffered slightly; two, or 20 per cent., moderately; and two, or 20 per cent., severely. These last two patients (Cases 42 and 50) were aged respectively 47 and 49 years. The patient in Case 50 had commenced to experience the ordinary symptoms of the menopause about two months prior to the operation; since the operation the menopause had been very severe. There were three patients over 50 years of age. Two had had no symptoms of the menopause and had not noticed any previously to their operation and one patient had slight symptoms. In comparing the percentages of the two sets of cases from their ovarian standpoint alone we get the following results (Table III.):—

TABLE III.

Severity of the menopause.	Ovaries removed.	Ovaries retained.
None	0 per cent.	66 per cent.
Very slight	0 ,,	10·1 ,,
Slight	22·8 ,,	11·8 ,,
Moderate	54·2 ,,	8·4 ,,
Severe	22·8 ,,	3·3 ,,

Table III. shows the advantage of keeping the ovaries as a general principle, irrespectively of age. If we now compare the results, taking into account the age of each patient, we get a still more striking result (Tables IV., V., and VI.):—

TABLE IV.

Severity of the menopause.	34 patients between 30 and 39 years of age.	
	Ovaries removed in 11 cases.	Ovaries retained in 23 cases.
None	0 per cent.	78·2 per cent.
Very slight	0 ,,	17·4 ,,
Slight	0 ,,	4·3 ,,
Moderate	63·3 ,,	0 ,,
Severe	36·3 ,,	0 ,,

[3] Transactions of the Obstetrical Society of London, vol. xxxix., p. 292. [4] Doran: Brit. Med. Jour., Sept. 15th, 1900.
[5] Jordan: British Gynæcological Journal, July, 1899, p. 396.
[6] Fritsch: Centralblatt für Gynäkologie, No. 5, 1899.
[7] Brit. Med. Jour., January, 1898.
[8] German Gynæcological Congress, 1899.
[9] Brit. Med. Jour., September, 1900.
[9] Zeitschrift für Geburtshülfe und Gynäkologie, Band xliii., Heft 1.
[10] British Gynæcological Journal, July, 1899.

A remarkable difference is noted by Table IV. which shows the extreme value of the ovaries in warding off the symptoms of an artificial menopause at this age.

TABLE V.

Severity of the menopause.	31 patients between 40 and 44 years of age.	
	Ovaries removed in 11 cases.	Ovaries retained in 20 cases.
None	0 per cent.	60 per cent.
Very slight	0 ,,	10 ,,
Slight	33·3 ,,	15 ,,
Moderate	41·6 ,,	15 ,,
Severe	25 ,,	0 ,,

The same difference is to be noticed here also, but not to such a marked extent.

TABLE VI.

Severity of the menopause.	17 patients between 45 and 49 years of age.	
	Ovaries removed in 7 cases.	Ovaries retained in 10 cases.
None	0 per cent.	40 per cent.
Very slight	0 ,,	0 ,,
Slight	14·2 ,,	20 ,,
Moderate	71·4 ,,	20 ,,
Severe	14·2 ,,	20 ,,

Between these ages the percentage is still slightly in favour of retaining the ovaries although their value here has decreased greatly. The menopausal symptoms which have occurred in some of the older patients in whom the ovaries were retained may probably be ascribed not so much to the effect of the operation as to the onset of the natural climacteric.

Considering these tables as a whole, the striking value of the presence of an ovary in warding off the severity of an artificial menopause is very clearly demonstrated, and although there is no definite rule which applies to every patient without exception yet there is a governing principle. There is a ratio between the age of the patient and the severity of the menopause. The younger the patient who has her ovaries removed the more severe will be her artificial menopause; as the patient becomes older the nearer will the artificial menopause resemble the normal climacteric. If the ovaries be retained the induced menopause is practically avoided below the age of 40 years, above that age the ovaries decrease in value every year. It may safely, then, be stated that the artificial menopause is dependent upon two factors—the removal or the retention of the ovaries and the age of the patient.

If, on the other hand, we examine these 100 cases for ill-results following the retention of the ovaries we find that in no case has their presence threatened to invalidate the success of the operation. In examining the 31 cases, which included every patient who had had any form of abdominal pain since operation, we find that 13 come from the 36 cases who had both ovaries removed and 18 from the 59 in which both ovaries were retained; the proportion of painful symptoms being less in those with ovaries, the pain cannot be indiscriminately ascribed to their presence. In three cases alone was there slight periodical abdominal pain every month. Therefore, in comparing the advantages to be derived with the risks that are involved in the retention of the ovaries, there is no doubt but that the advantages far outweigh the very slight possibility of future trouble that may be occasioned by their presence.

It has been a matter of some speculation as to what happens to the ovaries when they are left in the pelvis. From these cases it seems probable that in certain patients they continue to perform their functions in the same manner as formerly, but in a less degree. The monthly cycle of the patient's life remains unchanged, ovarian influence continues, and in some cases, where there has been sufficient uterine tissue to secrete left behind, there is an attempt at menstruation, as has been formerly mentioned. In other cases—such as in Cases 33, 67, and 69—there is a certain amount of discomfort and pain periodically every month. How long an ovary under these changed conditions will continue to exercise its influence over the system is uncertain, but in three cases—Cases 26, 38, and 46—the periodical discharge ceased about the age of 46 years. These patients then underwent a normal climacteric. This, however, is not always the case, as is shown by the fact that a certain number of patients, although their ovaries have been conserved, yet have experienced some symptoms, though slight, of the menopause soon after operation. It may be that in these cases the ovary has become in some way injured by the operation and its vitality impaired; if this is so, it would also seem that the older the patient the more easily is this ovarian function interfered with. In several cases the ovaries were removed because they were markedly diseased, but this pathological condition has not in any way mitigated the severity of the ensuing artificial menopause. Two patients only—Cases 34 and 49—complained of obesity since their operations, and in Case 34 this increase in weight prevented the patient from doing hard work. In both cases the ovaries had been removed.

The mental condition.—There has always been a recognised relationship between the uterus with its appendages and the mental condition. On investigating these cases with a view to finding out any change that may have occurred subsequently to operation it is noticed that in the majority of cases there has been no change in their mental attitude; in a few depression and irritability have been complained of, but this usually existed as a concomitant of the menopause. Two patients, however—Cases 11 and 56—require special notice, as they are inmates of asylums. The former of these was operated upon on July 14th, 1897. It was a case without complications and both ovaries, being in a healthy condition, were left *in situ*. While in the hospital the mental condition of the patient was unstable, but she made a good recovery and returned to her former situation as a domestic servant. Her health improved greatly and she remained in her situation until May 4th, 1900—a period of nearly three years. She then had to be removed to an asylum suffering from melancholia. I am indebted to the medical superintendent of the County Asylum, Brookwood, for the following particulars of her present condition. He states that she is depressed and miserable, hears supernatural voices talking to her, and that she has lately developed sexual delusions. He adds that in his opinion the operation could only have had a beneficial effect. This patient seems to have had a tendency towards insanity which developed irrespectively of her operation. The other patient was operated upon in November, 1898. In her case both the ovaries were removed, but nothing abnormal was noticed in her mental condition. She made an uninterrupted recovery and went out to service as a lady's maid; she was quiet and bright and for 18 months was in very good health. The lady with whom she lived died suddenly; this seemed to upset her very much and in October, 1900, she had to be placed in the Three Counties Asylum. The assistant medical officer of that institution has communicated with me, and in his opinion her present mental condition is not the effect of the operation. Eccentricity and delusional insanity seem to have been present before and after operation. She has delusions that her food is poisoned and she also has hallucinations. In both these patients we find an unstable condition prior to the operation,[11] and their present state cannot be considered as a direct result of the operation.

Memory.—Although the mental condition seems to be unaffected by the operation, yet it is interesting to note that the power of memory in many cases does not seem to be so good. Out of 95 patients 34 complained that their memory was less retentive than formerly. In six of these the loss had only been temporary, lasting two or three years, but in the remaining 28 there had been a permanent diminished power since the operation. 14 retained their ovaries and 14 had lost them, being a percentage of 23·5, as against 38·6 in favour of retention of the ovaries. The reason for this loss is, however, obscure, as advancing age can hardly be made to account for so large a percentage.

Bowel and bladder complications.—Operations upon pelvic tumours always entail the risk of a possible injury to the

[11] Halliday Croom: Transactions of the Edinburgh Obstetrical Society, vol. xxiv., p. 82.

bowel or bladder, but on investigating these cases we find that only two patients suffered from lack of proper control over the bowel; they were usually constipated, but when by artificial means the bowels were opened they were unable to control them. As regards the urinary system, eight patients have had some trouble in micturition since the operation—in one case a ligature being passed per urethram—but this trouble has in every case ceased after the first year.

Sexual instincts.—The influence of hysterectomy, with or without conservation of the ovaries, upon the sexual instincts is a subject about which little is known and upon which great diversity of opinion exists. Out of the 95 patients 64 were unmarried, widows, or living apart from their husbands, but of the remaining 31 we find that in 19, or 61·2 per cent., the marital relations were unaltered (seven of these had had both ovaries removed). Nine of the patients, or 29 per cent., stated that their relations were not so good as formerly (only two of these had had both ovaries removed); and three, or 9·6 per cent., found these relations improved; of these three patients the one who had this characteristic most markedly had had both her ovaries removed. From these facts neither the uterus nor the ovary appears to be essential for sexual instincts. The only factor which seems to have any bearing upon the condition is age. In those in whom a change had occurred the ages in seven cases were over 40 years and the remaining two patients were only just under that age, whereas three-fourths of those who had experienced no change were under 40 years of age. Whatever the cause may be, in the vast majority of cases hysterectomy does not interfere with the sexual passions.

Conclusions.—In recapitulating the most prominent conclusions it may be stated that from the standpoint of the patients the operation is an eminently satisfactory one and their capacity for work is greatly increased. The statistics clearly demonstrate that one ovary should be retained, but that the importance of this diminishes in proportion as the age of the patient approaches more closely the climacteric period. The operation *per se* causes no tendency to insanity, but a certain number of patients complain of a diminution in their powers of memory. The pain and discharge resulting from the operation are very slight; the functions of the bowel and bladder are not usually interfered with, and the sexual sensations, as far as can be gathered, are not generally influenced by the operation.

In conclusion, I must express my indebtedness to the staff of the Chelsea Hospital for Women, who so kindly placed their patients at my disposal and without whose assistance this investigation could not have been made.

London.

A CASE OF RECURRENT SARCOMA WITH APPARENTLY SPONTANEOUS CURE AND GRADUAL SHRINKING OF THE TUMOUR.

BY A. LAURIE WATSON, M.A., M.B., CH.B. GLASG.,
LATE RESIDENT ASSISTANT SURGEON, ROYAL INFIRMARY, GLASGOW.

THE following case seems to derive an exceptional interest from the fact that, so far as I can gather from the literature, nothing similar has been recorded. The facts have been carefully revised and all possible sources of error eliminated; indeed, in view of the unusual and unexpected result, I have been sceptical of everything that could admit the least suspicion. Coley,[1] in his article on the treatment of malignant tumours by mixed toxins and cultures of streptococcus erysipelatosus and bacillus prodigiosus, collects statistics of cases thus treated, and if his figures are at all accurate the results are certainly impressive; but after referring to the analogous cases in which cure has resulted from a supervening attack of erysipelas he goes on to add: "It would be somewhat remarkable that these cases should be the first, and thus far the only ones with both clinical and microscopical diagnosis of malignancy to disappear spontaneously, and it would be more remarkable still that this disappearance should be coincident with the beginning of the treatment with the toxins." Now, unless there has been some gross error of observation or deduction, the case here recorded stands quite apart from those of Coley, for there was no injection of toxins or any spontaneous attack of erysipelas, yet the tumour shrank in a most remarkable manner, and so far as its malignancy is concerned may be regarded as cured.

The patient, a strong, healthy-looking woman, aged 36 years, married, and with two children, was admitted to the Glasgow Royal Infirmary on Nov. 21st, 1900. She was absolutely free from ailment, and came into the hospital simply because a swelling on the back was annoying her and she wished to have it removed. This tumour was large and pendulous, being attached to the left side of the back by a base nine inches wide and rather less than four inches in vertical measurement; the apex hung down for almost four inches below the lower margin of its attachment to the back, while the upper margin was just below the inferior scapular angle. It was soft, but not fluctuant, slightly nodulated, and had the appearance of a lipoma undergoing degeneration; the skin covering the dependent portion was of a dark reddish colour. The tumour was regarded as simple, partly because of its character and partly because its history went back to the patient's childhood, though it had grown considerably in recent years.

On Nov. 23rd Dr. D. McK. Dewar, acting for Dr. D. Newman, removed it freely with all the discoloured skin, and remarked at the time that in three respects it differed from an ordinary lipoma: (1) the tissue was of a dirty greyish-yellow colour and very friable; (2) it was exceedingly vascular; and (3) its margins were diffuse and indefinite. After the operation hæmorrhage was so free that the dressings had to be frequently changed in the first few hours; thereafter they were left for four days untouched. On the 27th it was observed that the dressings had become tight and on exposing the back the tumour was found to be almost as large as before operation. In the expectation that this might be due to accumulation of blood-clot beneath the flaps a portion of the wound was opened up, but no blood could be expressed, even when a director was introduced and worked about inside the wound. It was therefore concluded that the swelling was due to a rapid re-formation of the tumour. By an unfortunate oversight the tumour first removed had been destroyed without microscopical examination; but at this stage two small portions of the tissue were removed. One of these I hardened and stained myself, the other was sent to Dr. C. Workman, pathologist to the infirmary. The sections obtained from the first portion were examined by Dr. Newman, by Dr. Dewar, and by myself; and the recognition of sarcomatous tissue, chiefly round-celled, was unhesitating. Dr. Workman's quite independent report described the tissue as a mixed round-cell and spindle-cell sarcoma.

A week later the operation wound had begun to ulcerate along its margins, and it was decided to attempt a wider removal, but when on Dec. 4th the patient was placed on the table and anæsthetised, the tumour had attained such a size and was so diffuse in its margins that further radical interference was considered out of the question; the ulcerated edges were therefore cut away and the wound was again stitched up. During the remaining days of her residence in the infirmary the patient looked and felt very ill and weak. A bad prognosis was given and she was dismissed on the 13th. After this several medical men saw her and all took a gloomy view of the case; but in spite of everything she improved and a month after dismissal from the hospital a letter was received from her own medical attendant stating that the operation wound had almost completely healed. When I visited her at her home in the country on Feb. 9th, 1901, I reported as follows: "The operation wound has entirely healed up, with only a small scab at its lower extremity, and leaves a firm healthy-looking cicatrix. The tumour is much less tense than at the time of dismissal and shows a tendency to return to the pendulous form which it had when first seen; it is flaccid and quite painless. At its anterior margin are some subcutaneous livid patches which were noticed at the time of the recurrence of the tumour, but these do not appear to have changed at all or to be spreading. The patient's general condition is much improved; she is able to be up and about, eats with a good appetite, and in general feels very comfortable." She again reported herself at the infirmary in April and the tumour seemed to be still further diminished in size.

[1] Twentieth Century Practice, vol. xvii.

As I have already stated, there was nothing of the nature of an attack of erysipelas in this case; but although locally no inflammatory phenomena manifested themselves the details of the temperature chart are suggestive. For the first six days after admission the temperature records showed a subnormal and normal range with a minimum of 97·2° F. and a maximum of 98·6°, being quite unaffected by the operation on Nov. 23rd, 1900. Then during the following week a slight upward tendency was noted, a maximum of 99·8° being registered on Dec. 3rd, and after the second visit to the theatre (on the 4th) the temperature shot up to 101·8°, remaining febrile and subfebrile, with daily remissions for five days, the highest point reached being 102° on the 8th. From the 10th to dismissal on the 13th it was practically normal. Whether this post-operative fever was an important factor in determining the subsequent resolution of the tumour I cannot pretend to say, but certainly the progress was continuous and most satisfactory.

Finally, I again visited the patient at her home on Nov. 21st, exactly a year after her admission to the infirmary, and the following is my report: "The general health is excellent. The tumour is much less prominent and hangs like a loose sac, as if almost all its contents had been evacuated. There is slight lividity at the margins but no pain, except an occasional stinging like neuralgia in damp weather. The tumour covers about the same area as at the time of dismissal but consists of little more than loose skin. The scar of the operation wound is perfectly sound and firm. No pain is caused by free manipulation and the clothes are worn without discomfort."

The recorded cases of sarcomata which have disappeared after an attack of erysipelas are fairly numerous. One such has come under my own observation. It was that of a man under the care of Dr. J. McC. Johnston in the Town's Hospital, Glasgow, and at the time it impressed me greatly. First of all, a small rounded tumour of about the size of a walnut was removed from beneath the chin and microscopical examination showed it to be a round-cell sarcoma. A few weeks later the patient returned with a chain of greatly enlarged glands on both sides of the neck. Dr. Johnston dissected away all the tumours on one side in a first operation, and just as he was ready to deal with the other side the patient developed a violent attack of erysipelas all over the neck and upper part of the chest, and with the clearing up of this the glandular swellings also disappeared. From such cases as this the treatment by toxic injections was a natural corollary, but in this country it does not appear to have been systematically and persistently tried with any measure of success. Yet the analogy between sarcoma as a morbid overgrowth of connective tissue and simple inflammatory hyperplasia seems to indicate a rational basis for such treatment, and certainly much progress may yet be made in this direction.

Ayr.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A BRIEF NOTE ON THE USE OF PETROLEUM EMULSION AS AN INTESTINAL DRUG.

BY THEODORE FISHER, M.D., M.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, BRISTOL HOSPITAL FOR SICK CHILDREN; PATHOLOGIST TO THE BRISTOL ROYAL INFIRMARY.

IN a letter to THE LANCET of Nov. 23rd, 1901, p. 1448, commenting upon the morbid anatomy lesions of typhoid fever, I suggested that petroleum emulsion might be found useful as an intestinal antiseptic in that disease. At that time I had not tested the value of the emulsion in the laboratory, but a few experiments undertaken since seem to show that when mixed in equal quantities with ordinary culture media it has no power to restrain the growth of either aerobic or anaerobic micro-organisms. My belief in the value of petroleum emulsion was based upon the experience of the out-patient room where one is exposed to many fallacies. One instance, however, where this emulsion was used in chronic diarrhœa is worth mentioning.

A child, aged two years, when brought to the hospital was said to be having about 12 motions a day. The patient was given two drachms three times daily of a medicine composed of equal parts of a simple chalk mixture and petroleum emulsion. At the end of a week the bowels were said to have been opened on an average from two to three times a day. There was then no petroleum emulsion in the dispensary and the child was given one and a half drachms of the chalk mixture three times a day, but at the end of the second week the diarrhœa was nearly as bad as before treatment was commenced. One grain of beta-naphthol was added to two-drachm doses of the chalk mixture, but at the end of another fortnight the bowels were still moved eight or nine times a day. The mixture containing one drachm of petroleum emulsion was then given again and the frequency of the motions immediately fell to twice a day.

In the treatment of threadworms petroleum emulsion has often seemed to me to be useful. A curious case may be mentioned which came under the observation of my colleague, Dr. Cecil Williams. A young woman, aged 25 years, had suffered from threadworms for about 15 years and had been under the care of several medical men for the complaint. At my suggestion Dr. Williams tried petroleum emulsion and after it had been taken for about three weeks the worms had ceased to trouble her. I have not, I regret to say, investigated in any reliable way the value of petroleum emulsion in the treatment of threadworms. Children are rarely brought up to a hospital for them alone and when the worms disappear while the child is taking the emulsion the medicine given for the primary disease may be the responsible remedial agent in the minor complaint. My belief in the power of petroleum emulsion to get rid of these worms is somewhat shaken by finding that the emulsion does not possess bactericidal power. If in some cases of diarrhœa petroleum emulsion is of real, not merely of apparent, value the explanation may be that it has some beneficial mechanical action upon the walls of the intestines. It is worthy of note, however, that naphtha has been thought by physicians practising in the East to be of value in the treatment of cholera. One can conceive it to be possible that there may be forms of petroleum less volatile than naphtha, but sufficiently volatile to be antiseptic when used in considerable quantity, yet which, when used internally, would, like the oil contained in petroleum emulsion, pass through the intestines without being absorbed.

Clifton, Bristol.

SIX MONTHS' IMPACTION OF A COIN IN THE ŒSOPHAGUS; SUCCESSFUL REMOVAL BY PROBANG.

BY CHESNUT PEACOCK, M.B., B.CH. R.U.I.,
HOUSE SURGEON, MILLER HOSPITAL, GREENWICH-ROAD, S.E.

ON Dec. 21st, 1901, a boy, aged six years, was admitted into the Miller Hospital, Greenwich-road, S.E., suffering from brassy cough and regurgitation of food, accompanied by rise of temperature. The history elicited the fact that in the previous July the patient had swallowed a halfpenny. Vomiting occurred immediately afterwards but was not repeated. For the next three weeks the patient said that he could "taste the ha'penny," and he complained of pain under the chin every time he took food; but at the end of that period these symptoms ceased, and until December the patient suffered no further inconvenience. At the beginning of December a dry, clanging cough, difficulty in swallowing, dyspnœa, and regurgitation of food came on, and as the symptoms steadily grew worse he was brought to hospital for treatment.

Examination by the x rays showed a coin impacted in the œsophagus at the level of the third rib, the flat surfaces facing anteriorly and posteriorly respectively. On Jan. 1st, 1902, the patient was anæsthetised and an attempt was made to move the coin with the coin-catcher. As this effort failed the probang was tried, and on the second attempt the coin was found to be lying free in the pharynx. It was quite black in colour and was entirely covered on one surface with an inflammatory exudation. Immediately the coin was removed the patient's breathing, which up till then had been laboured, became easy, and he made a rapid recovery from the anæsthetic. As it was not deemed advisable to allow him anything by the mouth, rectal feeding was tried, but the enemata were very imperfectly retained, and as on the

second day after the operation the patient complained of very great thirst he was allowed to sip a few teaspoonfuls of water. This was followed by no ill-effect, so on the next day milk was substituted for the water. Two days later he was given beef-tea, and at the end of the week he was allowed to have solid food. The patient made an uninterrupted recovery and was discharged completely cured, the cough, dyspnœa, and other symptoms having entirely disappeared. From the time of the operation until his discharge the temperature never rose above normal.

For permission to publish this case I am indebted to the operator, Mr. Hugh Davies, visiting surgeon to the Miller Hospital.

Greenwich-road, S.E.

NOTES ON A CASE OF VARIOLA HÆMORRHAGICA.

W. CULVER JAMES, M.D. ABERD., F.R.C.S. EDIN.,
SENIOR PHYSICIAN TO THE WESTMINSTER GENERAL DISPENSARY.

THE patient, a governess, was first seen on Jan. 7th last, complaining of chill, pain in the back, and nausea. She had nasal and bronchial catarrh and a slight cough; the tongue was furred, the menstrual period was overdue, her temperature was 103° F., and her pulse was 108. She had recently been working rather harder than usual and had felt tired and weary. On the day before she was seen she suffered from backache which became so severe that she was unable to sleep and could with difficulty turn in her bed. She was suffering from constipation for which an aperient had been administered. On the evening of Jan. 7th the pain was relieved and she passed a good night. On the following day the catamenia appeared, the temperature fell, the pain in the back was less, and she felt much better. Towards night the uterine discharges became profuse and offensive; later an eruption appeared on her face. On Jan. 10th the skin of the whole of the face was red, inflamed, swollen, and covered with minute vesicles, giving the idea of a uniform scalding. Scattered over the neck, trunk, arms, and thighs were numerous small vesicles about a line in diameter, with reddened bases. Interspersed among these were a very few larger vesicles with small dark-brown centres; only about half-a-dozen were counted. The tongue was coated with a thick white fur and on the left of the palate was a vesicle of a dark-brown colour, of about a sixth of an inch in diameter. The catamenial discharges remained profuse and of a foul character, and she was expectorating blood-stained mucus. She was removed to the hospital in the evening, but the hæmorrhage from the uterus continued and that from the lung increased. She died on Jan. 13th.

On careful inquiry the following facts were elicited. Six months before the patient was born her mother had suffered from a severe attack of small-pox, from which, however, she made a good recovery. The patient was born at full term, the skin showing several cicatrices—"small-pox pits." In infancy she was vaccinated and revaccinated unsuccessfully. When she was nine years of age she was vaccinated three times unsuccessfully and at the age of 14 years she was again vaccinated without result. With such an experience her parents naturally thought her immune, and she was unfortunately not vaccinated when small-pox broke out last year. A fortnight before she began to be ill she came in actual contact with an acquaintance who had come straight from a case of hæmorrhagic small-pox (that afterwards ended fatally).

The above case is interesting as it would appear to show that variola in intra-uterine life had rendered the patient insusceptible to vaccination for 14 years, but that after a period of 18 years it had afforded no protection against a fresh attack.

Marloes-road, W.

NEWTON ABBOT HOSPITAL.—The annual meeting of the subscribers to this institution was held on Jan. 23rd. The medical report stated that 224 in-patients had been admitted in 1901, compared with 220 in the preceding year. The out-patients numbered 872. The financial statement showed that the receipts amounted to £1391, including £163 from the Hospital Saturday Fund. The expenditure was £1143.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

A CASE OF PERSISTENT OMPHALO-MESENTERIC DUCT; LAPAROTOMY; RESECTION OF THE DUCT; RECOVERY.

(Under the care of Mr. H. BETHAM ROBINSON.)

AN umbilical fæcal fistula resulting from patency of Meckel's diverticulum is somewhat rare. Probably in these cases the patent duct extends into the cord and is tied with the cord, so that when the cord separates an opening lined by mucous membrane is left. The degree of prolapse of the mucous membrane of the duct varies in different cases. It may form a prominence two inches in length. Mr. W. H. Battle showed a case at the Clinical Society of London[1] in which a very similar condition existed.

The little boy in whom the above condition was present was first taken to the East London Hospital for Children when he was a few months old. The history given was that at birth the cord was noticed to be very thick at its attachment and after its separation some fæcal discharge came from its surface. Very soon what seemed like a red polyp appeared on the umbilical cicatrix. The discharge from its apex was yellow like that from the small intestine, but its amount varied; it was occasionally tinged with blood due to the bruising of the surface of the polyp. The child was inclined to be constipated. Nothing abnormal could be felt on palpating the abdomen. A probe could be easily passed through the centre of the polyp, evidently into the intestine, proving that there was a persistent duct with prolapse of its mucous lining. As the child did not seem very robust Mr. Robinson thought it wiser to postpone the operation for a while, but when the patient was 13 months old, as he seemed to be much stronger and fearing lest its postponement should allow of the production of a difference in calibre of the lumen of the bowel on each side of the attachment of the duct, Mr. Robinson decided to operate.

The operation was performed under chloroform on June 13th, 1901. A vertical incision was made in the linea alba, starting about one inch above the umbilicus, then passing round the left side of the latter to the mid line to end one inch below. The fascia was divided and the peritoneal cavity was opened; a similar incision was made on the right side of the navel, thus freeing the umbilical cicatrix and leaving it attached to the duct. It was then shown that there had been an extension of the peritoneal sac into the base of the umbilical protrusion, the duct being centrally placed and completely surrounded by the sac. The tube was three and a half inches long, joining the free border of the small gut at right angles; there was a delicate mesentery on either side of the process attached to the gut at right angles to its long axis. As was anticipated the lower end of the gut was slightly reduced in size, although the calibre of the duct itself was not sufficient to divert the contents of the intestine to any extent. The process was next clamped inside its skin attachment and an incision was made round it through the serous and muscular coats about one inch from the bowel. The latter coats were peeled back with a blunt dissector; the tube of mucous membrane was ligature and cut away. The sero-muscular sleeve was sewn up over the stump by Lembert's sutures in the long axis of the gut. The operation was completed by stitching up the abdominal wall in layers, there being of course now no umbilical cicatrix. Although the operation did not take very long there was considerable collapse, but the child rapidly revived with brandy and strychnine.

The after-progress of the case was exceedingly satisfactory.

[1] Transactions of the Clinical Society of London, vol. xxvi., p. 237.

During the first 24 hours the temperature rose to 101° F. and the pulse increased in proportion; the child was rather weak and restless. After this there was marked improvement, both temperature and pulse remaining normal except on the 20th, 21st, and 22nd, when there was a slight rise due to the child cutting a tooth. There was no vomiting; the bowels were opened naturally on the first day and regularly afterwards. During the first day small quantities of meat peptones and hot water were given by the mouth, and saline enemata; afterwards the meat peptones were continued and peptonised milk was given. On the 18th the wound was dressed; it looked very well and some of the stitches were removed. On the 25th the rest of the stitches were taken out and the wound was quite healed. The child went to the convalescent home on July 4th.

Remarks by Mr. ROBINSON.—Umbilical polypi are not infrequently met with on the site of the separated cord. Although sometimes in the past loosely spoken of as granulomata they rarely are so histologically. The majority show an adenomatous structure consisting of large Lieberkühn's crypts with goblet cells or of glands branched like those about the pyloric end of the stomach. Such a histological appearance suggests its origin—viz., from one of the epithelial-lined tracts in the cord; these are two in number, the omphalo-mesenteric duct and the urachus.

In normal development the omphalo-mesenteric duct atrophies from the small intestine to the abdominal wall, setting free the bowel, and as a rule leaves behind no evidence of the site of its original attachment to the bowel. The commonest variation, probably, is for its central part to remain patent as Meckel's diverticulum, but it may, as in the present case, remain patent in its whole length. In other instances the lumen becomes obliterated and there will remain a ligamentous cord stretching from the bowel to the navel; the latter cord may again lose its connexion with the abdominal wall, remaining free or becoming abnormally adherent especially to the mesentery. These variations may, as is well known, play an important part in inducing different forms of intestinal obstruction. The urachus is the continuation of the bladder to the umbilical cord and related to the allantoic outgrowth from the hind-gut.

The histology of the polyp points to its origin from intestine, as in the recorded cases there is no account of one being composed of cells resembling those of the bladder; in this connexion, however, it must be borne in mind that a transition has here occurred from that resembling the lining of the hind-gut.

In nearly every case of a polyp the child is brought to the hospital with a history of discharge from the navel, and on examination the little raspberry-like growth is seen. It behoves the surgeon to examine every such case, most carefully inquiring as to, and seeing the character of, the discharge and looking for any lumen in the growth. When the discharge resembles the contents of the small intestine it is evident that there is a patent duct, the polyp in this instance being the prolapsed mucous membrane. Having, then, established the existence of such a patency the surgeon must consider his position as to how and when to act. As to the former there can be no two opinions bearing in mind the serious complications which may arise from non-interference. The prospect of strangulation under or across the band must always loom largely before the surgeon until this has been made impossible by an operation. The surgeon must be guided when to act by the child's general condition and also by the amount of discharge from the opening. If this is small it may be assumed that the lumen of the duct is narrow and that, if the operation is postponed, no great developmental disproportion will ensue in the lumina of the two ends of the bowel; but if the discharge is free and what comes from the rectum is limited then he must bear in mind that there will probably be a disproportion in size, which will be more marked the longer the operation is postponed.

As to the surgical technique employed in this case no further remarks are necessary, the general principles in vogue in abdominal surgery being adopted.

The literature of this subject is extremely scanty. Treves[1] reports having successfully performed a plastic operation for the closure of the abnormal passage in a male infant a few weeks old, but he gives no details as to what that operation was. Beyond this case I can find no other recorded where such a plastic operation was deliberately done. From my search several cases have been reported where in an operation for intestinal obstruction a band has been found, the remains of the duct with only its central part patent—a Meckel's diverticulum with a fibrous cord passing to the navel—in these the diverticulum and its continuation have been removed.

[1] Intestinal Obstruction, 1899, p. 42.

ROYAL ISLE OF WIGHT COUNTY HOSPITAL.

A CASE OF TRAUMATIC TETANUS; RECOVERY.

(Under the care of Mr. F. J. WADHAM.)

THE value of antitoxin in the treatment of tetanus requires very careful examination. Numerous reports are published describing cases in which its administration has been followed by recovery, and a smaller number of cases in which death has resulted. Yet it must not be imagined that the numbers of the recorded cases represent the relative frequency of recovery and death after treatment with antitoxic serum. Before the introduction of the antitoxin a proportion, by no means small, of the cases of tetanus recovered, though statistics vary greatly as to the exact proportion, and it has not been definitely shown that the percentage of recoveries has been materially altered. In the present state of our knowledge the administration of the antitoxin should not preclude the use of other means which have been found useful, such as the bromides. It would be well if we could obtain a long series of cases which had been treated in one institution both before and after the introduction of the antitoxin. We should then be in a better position to judge of its value. For the notes of the case we are indebted to Dr. R. C. H. Kennedy, house surgeon.

On Nov. 3rd, 1901, a man, aged 22 years, a groom, whilst working in a stable broke a pane of glass in the window and in so doing cut his right index finger on the dorsal surface of the proximal phalanx. He stated that the wound bled profusely and that in order to check the hæmorrhage he placed some cobweb on it. He did not suffer much pain. The wound suppurated slightly and then after a few days it closed up. On the 14th he felt some stiffness in his jaws and at dinner had difficulty in masticating his food and in swallowing. The wound broke down and he suffered some pain in it. On the 15th he consulted Mr. Wadham who immediately sent him to the Royal Isle of Wight County Hospital. He complained of pain and stiffness in the back and neck. Considerable trismus and risus sardonicus were present. The wound, which was about three-quarters of an inch long, was unhealthy-looking and discharging sanious pus. He was placed in a darkened room and put on bromide of potassium (30 grains every four hours), brandy (10 drachms every four hours), and beef-tea and milk (four ounces every two hours alternately). The wound was washed in a solution of perchloride of mercury (1 in 1000) and was dressed with a pad of gauze wrung out of a solution of the same strength. The axillary temperature was 98·6° F., the pulse was 60, and the respirations were 20. During the day the patient became very restless and all the tetanic symptoms became more marked. 10 cubic centimetres of anti-tetanic serum were injected into the flank. The spasms now appeared to be more clonic in character than tonic, with exacerbations. The injection of serum was continued during the first seven days until 110 cubic centimetres had been given, not more than 10 cubic centimetres being given at any one time. The various symptoms increased in severity till the fifth day after admission, when almost absolute trismus was present, swallowing was difficult, and great opisthotonos and pain in the back and neck with exacerbation were caused by the slightest noise or movement. The passage of a catheter, which had been necessary since the second day, became very difficult owing to the spasm which it caused. Nitrite of amyl was now administered as an inhalation during the exacerbations and afforded marked relief.

The patient remained in this condition till Nov. 24th (twenty-first day after injury), when the exacerbations became less severe and less frequent, and diuresis became much increased. On the 26th (twenty-third day) an enema was given, the bowels not having been opened since admission. On the 28th bromism developed, the patient having taken in

toto rather more than 42 drachms of bromide of potassium; the bromide was stopped. On Dec. 3rd (thirtieth day) urine was passed naturally. The bowels were very loose and the patient was able to sit up in bed. On the 6th he was allowed bread and milk and custard in place of some of the fluid nourishment. 15 grains of bromide of potassium were given each night. On the 9th (thirty-sixth day) the patient was up for a couple of hours. There was no stiffness remaining except in the legs which were still somewhat rigid. On the 18th he had been up daily and was out on this day for some time. On the 30th the patient was discharged quite recovered.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on Modern Methods of Vaccination and their Scientific Basis.

A MEETING of this society was held on Jan. 28th, Dr. F. W. PAVY, the President, being in the chair.

Dr. SIDNEY COUPLAND, in opening the adjourned discussion on Modern Methods of Vaccination and their Scientific Basis, said that the Act of 1898 had had a most beneficial effect on vaccination. It had greatly diminished the risk which resulted from vaccinal injury, since by making it obligatory to employ a glycerinated lymph nearly all the infective organisms had been eliminated. The performance of the operation at the child's home instead of at a station had reduced the accidents following vaccination to a minimum. He thought that the profession had not sufficiently considered the slighter injury which followed vaccination. In the majority of cases in which bad results followed it was not the lymph which was at fault but some accidental complication. He quite agreed with Dr. T. D. Acland that the Government should have full control of all the vaccine used in the country. With regard to what might be regarded as efficient vaccination he said that since the purified lymph might give rise to such a small amount of scarring the size and area of the scars could no longer be considered as evidence of effective vaccination, and reliance would have to be placed rather on the number of scars than on either their depth or area. It was a well-recognised fact that those persons with more scars were better protected than were those with fewer scars. With regard to the protective value which a previous attack of small-pox had, he said that out of 250 people who had had small-pox in childhood 10 contracted a second attack of small-pox when exposed to infection, and in an epidemic investigated by Dr. T. D. Savill an even larger proportion occurred—viz., nine out of 41 cases. With regard to the protective value of vaccination, he said that about one in four persons who had been vaccinated in infancy contracted small-pox if exposed to infection in later life. Revaccination conferred absolute immunity, and even in a patient who had had small-pox the immunity could be prolonged by revaccination. In children under 10 years of age who had been vaccinated in infancy the liability to contract small-pox when exposed to infection was one in 12, while in those who were unvaccinated the liability was two in three. He did not consider that all even recently vaccinated persons were absolutely immune owing to their vaccination with various strains of lymph, some of which might have become inert.

Dr. A. E. COPE said that as a public vaccinator he wished to say a few words on the way in which the actual work of vaccination was carried out. He then gave details as to the cleansing of the arm, which he thought in the infant was best carried out with a little rectified spirit, while in revaccination a more thorough cleansing with 1 in 20 carbolic soap was advisable. With regard to the instrument used he was in favour of a platinum lancet with a hard iridium point—this could be sterilised easily in a flame without losing either its temper or its sharpness; it also possessed the further advantage that it did not get the dull, dirty appearance of a steel instrument after being heated in a flame. Before covering up the scratches he waited till an urticarial reaction had taken place and then covered the site of inoculation with a dressing of boric wool. One of the most troublesome complications which he had met with was the chronic eczema which sometimes started around the vaccination scars. He thought that children should be revaccinated at 14 years of age, and that if this were done then the inconvenience of a swollen arm, which often resulted if the vaccination was left till the patient was between 30 and 35 years of age, would be avoided, for the effect would be less severe.

Mr. WILLIAM F. BLAKE asked what constituted successful vaccination. If two persons were vaccinated from the same tube and the one took but the other did not, could it be asserted that the person who did not take was protected against small-pox? He also asked whether it was possible to vaccinate an individual successfully with different strains of lymph within a period of a few months, as had been asserted by a speaker at a former meeting.

Dr. F. CHURCHILL asked if any age-limit could be fixed at which it was unnecessary to revaccinate adults. He had been in the habit of advising revaccination in persons even of advanced age.

Dr. BERNARD O'CONNOR said that he thought that revaccination should be performed at 14 years of age and that after that revaccination should be performed at fixed periods until the individual ceased to take.

Dr. F. ST. GEORGE MIVART said that he had seen keloid occur after vaccination and that this had occurred in certain districts. He had been unable to discover any cause for this condition.

Dr. S. MONCKTON COPEMAN, in reply, said that the effect of glycerine in the lymph was to inhibit and eliminate all the non-spore-bearing organisms, and since most of the pathogenic organisms were non-spore-bearing the lymph was thus freed from all infective organisms. Even if such organisms as those of erysipelas and tubercle were intentionally added to the lymph in considerable quantities the subsequent addition of glycerine gradually eliminated them, so that after a given interval the lymph was free from any such infective qualities. He considered that the same amount of vaccination was necessary in the child as in the adult, and, as a rule, the vesiculation was less severe in relation to the amount of vaccine used in the child than in the adult. He said that no satisfactory method of standardising lymph had yet been discovered. There was no doubt that a person might contract small-pox twice or even three times. He referred to the great immunity which vaccination gave, and as an instance said that he had on two occasions accidentally inoculated himself from cases of confluent small-pox, with the result that no infection took place. With regard to inert lymph he said that when it was suspected that a vaccination had failed because of inert lymph the patient should not at once be revaccinated but should wait a month, for a certain amount of local immunity seemed to be produced even by apparently inert lymph. It was generally assumed that the glycerinated lymph was less potent than was the older form of lymph. This he did not think was the case, for in the preparation of the calf lymph the epithelium in which the vaccine organisms were supposed to be was scraped off, whereas in the lymph taken from the vesicles only the fluid portion was taken. In conclusion, he referred to the possibility of vaccination by internal administration.

MEDICAL SOCIETY OF LONDON.

Discussion on the Nature and Treatment of Obesity.

A MEETING of this society was held on Jan. 27th, Dr W. H. ALLCHIN, the President, being in the chair.

Sir T. LAUDER BRUNTON opened a discussion on the Nature and Treatment of Obesity. He said that it was difficult to give an exact definition of obesity, but in general terms it might be said that obesity commenced when the patient's fat was obviously very much greater than normal or when it became inconvenient to himself. In order to define more accurately what he meant he gave the following figures. The average height of an Englishman was about five feet eight inches and his weight 11 stones. This remained pretty constant till the age of 40 years, when the weight generally began slightly to increase. According to van Noorden this weight might increase as much as 15 per cent. and still be within the normal limit. When it reached 30 per cent. the person was regarded as stout; from 30 per cent. to 35 per cent. as

too stout; from 35 per cent. to 50 per cent. as moderately obese; and above 50 per cent. as very obese. The accumulation of fat occurred specially in the subcutaneous tissue, in the omentum, and around the heart and kidneys. Fat consisted chiefly of mixtures of different proportions of glycerine united with fatty acids. These mixtures varied in different animals, but each animal kept its own fat nearly up to a constant standard, although it might feed on other animals having a different kind of fat. This was not altogether the case, however, for as an old nurse of Weir Mitchell remarked, "Some fats are fast, some fats are fleeting, but cod-liver oil fat is soon wasted." This had been proved scientifically, for in animals fed on rape seed oil this oil could be detected unaltered in the tissues. Accumulation of fat in man depended on, firstly, how much fat or fat-forming food was taken into the body, and, secondly, on too little being burned off. These two causes might act together. Fat was, however, formed from different kinds of food even if fat itself was not contained in them, such as albuminates and carbohydrates. The body was able to split off fat with difficulty from albuminous materials, such as lean meat, but it formed fat with considerable ease from sugar and starch. The tendency to lay on fat was therefore determined to a considerable extent by the nature of the food. The tendency to the accumulation of fat both in men and animals after the removal of the testes and ovaries was well known, and Loewy and Richter found that in dogs the administration of ovarian extract had no effect when the generative glands were present, but increased oxidation in animals from which the ovaries and testicles had been removed. It was usual to distinguish two forms of obesity, the plethoric and anæmic. He referred to an instance of the former in which the patient had successfully effected a reduction in his weight so that he could run and vault with ease, but he found that when his bodily activity increased his mental activity diminished. The anæmic type of obesity was most frequently found in women. Certain diseases which lessened activity tended to cause the ac umulation of fat, such as chronic nephritis, on account of the languor which it produced. With regard to the treatment of obesity, as the cause of the condition either in its severe or slight forms consisted in the ingestion of more fat-making food than the body could burn off, its treatment naturally consisted in limiting the food both in quantity and in quality and increasing the combustion of the body by accelerating the circulation. The best way of stimulating combustion was undoubtedly muscular exercise, but in severe cases the difficulty was that patients were unable to take muscular exercise, and in these cases the use of massage by means of which the circulation through the muscles might be increased threefold, tissue change was obtained without inconvenience to the patient. Massage alone was not sufficient and should only be the preliminary to more active exercise, and even exercise alone was rarely sufficient to bring down obesity. It was necessary that the amount of food should be lessened and this could generally be done by insisting that solids and liquids should be taken at different times. Many people were apt to wash down food, and especially farinaceous food, without much mastication; but if the farinaceous food was of a dry kind, such as crisp toast, rusk, or biscuit, the quantity that could be got down in a given time if fluid was withheld became very much less. He suggested that digestion in the stomach had less tendency to form fat than when the digestive process was carried on in the intestine. Should the regulation of diet combined with a fair amount of exercise fail to reduce the patient then the next best thing was to put the patient on the so-called "Salisbury" treatment, which closely resembled that recommended by Harvey and Banting with the addition of hot water. The disadvantage of the Banting treatment was that an excessive amount of nitrogenous waste product occurred which unless eliminated produced poisonous results. The use of thyroid extract increased tissue change and would reduce fat considerably, but in most cases it was far better to diminish obesity by attention to feeding and exercise than by the use of thyroid. Nervousness, tachycardia, and tremor were produced by taking thyroid for too long a period.

Dr. I. BURNEY YEO said that he thought obesity might be divided into two classes—those cases that were easy to treat and those that were difficult to treat. In those which arose from dietetic errors the treatment was easy, while in those due to a "vice of metabolism" or of hereditary nature the carbohydrates might be removed with but little benefit. It was of great importance that treatment should be begun early. If a man at the age of 40 years began to show signs of obesity he should leave off sugar and should eat less bread and less potatoes. He referred to the successes that had been obtained by limiting the patient to an absolute milk diet of one quart per diem, but in such cases the patient must be kept at absolute rest. He considered that it was disadvantageous to limit obese persons too closely in the amount of water which they took, for many of these patients were of gouty nature and needed the water to eliminate the waste products. He referred to the effect of castration and doubted whether internal secretion played so important a part as was generally supposed, and suggested that the loss of sexual emotions accounted for the increase of obesity. He thought that thyroid extract should only be given in those cases which did not react to other forms of treatment. He considered that alcohol was an important element in the production of obesity. He was of opinion that the Salisbury treatment was risky in its application to elderly people.

Dr. SCHOTT (Nauheim) said that he intended to confine his remarks to the fatty condition of the heart. He described three forms: firstly, that in which fat surrounded the heart; secondly, that in which the fat was between the muscle fibres of the heart; and thirdly, that in which there was fatty degeneration of the muscular fibres. Treatment might be carried out by two methods: firstly by drugs and secondly by diet and exercise. With regard to the former he said that not long ago it was the habit to use purgative waters, so that the patients rapidly lost weight. In young persons with good muscular systems this might be carried out successfully, but in anæmic and old persons it was attended by very considerable risk, and he mentioned two cases in which patients lost 54 and 45 pounds respectively in a few weeks and fatty degeneration of the cardiac muscle took place from which the patient some six months later died. If fat was lost rapidly it was lost not only in the subcutaneous tissue but also in the nerves, the brain, and the muscle. It was often difficult to get stout persons to overcome their apathy and to take exercise. He considered that cool effervescing baths were safer and better for obese persons than Turkish baths, and he had seen serious collapse result in the latter. He characterised the treatment by milk alone and also that by dry rolls as a "hunger cure." Great care was necessary not to reduce the fat too rapidly.

Dr. R. HUTCHISON suggested that the reason why certain persons tended to get fat was that they were more economical machines and radiated less heat. He said that the theory lacked experimental verification. Treatment of obesity should be by oxidation of the fat in the body, and this was possible by the administration of thyroid extract. Unfortunately, however, it also produced oxidation of the albuminoid bodies and therefore largely increased the excretory products. With regard to the restriction in the quantity of fluid he said that the simple limitation of the amount did not experimentally produce a diminution of weight, but that the result was due to the smaller quantity of food that could be conveniently taken. In Germany, however, where the fluid commonly taken was beer, the restriction might have a marked effect.

Mr. C. R. B. KEETLEY referred to the disappearance of umbilical hernia under the Banting diet and he said that he frequently gave a modified diet before operating for the radical cure of such herniæ. He suggested that in some cases the fat on the abdomen might be removed by operation.

Dr. A. P. LUFF said that it was important to distinguish between obesity which was inherited and that which was acquired, and they should not be treated by one and the same method. He thought that the Salisbury treatment should not be attempted in any case in which there was either renal disease or weakness of the heart. He quite agreed with former speakers as to the advantage of allowing no water with the meals. He considered that thyroid extract should not be administered in persons with any affection of the heart or kidney, but that in other cases it was of service.

The PRESIDENT referred to the uncertainty of the causes of obesity; in some cases it followed on an excess of food, while other individuals got fat on but a very small amount of food. Again, there were individuals who took a large amount of food and yet remained small and thin. That the nervous system had a marked influence was shown by the fact that mentally deficient children often became very fat and also by the abnormal production of fat in the condition known as "adiposa dolorosa"; on the other hand, in the

cases of anorexia nervosa patients wasted quite out of proportion to the quantity of food which they took. He believed that there was in obesity a "perversion of metabolism."—Sir T. LAUDER BRUNTON replied.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Jan. 24th, Mr. HOWARD MARSH, the President, being in the chair.

Dr. SEYMOUR TAYLOR showed a lad, aged 15 years, with Bilateral Facial Palsy. He had "paralysis of the legs and arms when five years old," from which he recovered. He had never been able "to move his face." There was no history of delivery by forceps or of otorrhœa, but he had had two attacks of rheumatic fever followed by valvular disease. The lad exhibited almost complete bilateral facial palsy; but there was slight voluntary power in the risorius and the depressor anguli oris, and also in a few fibres of the orbicularis oris muscles. He talked readily, but all labial and explosive consonants were pronounced by the aid of the tongue, so that "apple" was turned into "attle," "pear" became "tear," and so on. There was no sign of degenerative changes in any other nerve. The exact seat of the lesion had not yet been determined by complete electrical reactions, but the probability was in favour of the lesion being peripheral.—Dr. F. E. BATTEN suggested that the case might be a myopathy of the Landouzy-Déjerine type in which the face only was involved.

Mr. G. TURNER showed a case of Actinomycosis which had been cured by 45-grain doses of potassium iodide administered three times a day. The case was fully reported in the Transactions of the Clinical Society of London, vol. xxxiii.—The PRESIDENT referred to a case of actinomycosis of the buttock which he had treated in the same way with complete success.

Mr. LAWRIE H. MCGAVIN showed a girl, aged 18 years, with Bilateral Cervical Ribs and an Abnormal Bony Mass at the First Chondro-sternal Junction. She noticed a mass under the left clavicle six months previously, which had given rise to no inconvenience except from time to time aching pains in the region. On examining her the condition of the neck was accidentally discovered. She had lately complained of slight numbness and tingling over the dorsum of the first and second metacarpal bones of both hands. In addition to this she had occasionally experienced shooting pain in the area of distribution of the superficial branches of the cervical plexus, especially of the great occipital and supra-acromial divisions. The symptoms were more marked on the left than on the right side. The position of the supernumerary ribs was demonstrated on a skiagram; that on the right side was short and straight, and ended over the centre of the first rib, springing from the transverse process of the seventh cervical vertebra. That on the left was curved, arose from the same point, and appeared to end much nearer to the inner side of the clavicle. The sternal extremities of the first ribs were markedly different in shape, that on the right being broad and thick, while that on the left was thin and indistinct. At the upper margin of the skiagram was seen an indistinct nodular bony mass, apparently in connexion with the transverse processes of the fourth and fifth cervical vertebræ.—Dr. SEYMOUR TAYLOR said that these accessory ribs generally occurred in women and on the left side. He regarded them as a reversion of type.

Mr. J. JACKSON CLARKE showed a female child, aged nine years, with an Abnormal Curvature of the Spine determined by Shortening of the Left Rectus Abdominis Muscle. The patient's breathing was purely abdominal and the abnormal curves in the spine were fixed, not disappearing either when the patient lay down or when manual pressure was employed. On attempting to straighten the spine he observed that the lower portion of the thoracic wall on the left side was dragged upon, that the left rectus muscle was tense and hard in every position of the body, and that it was less resistant when the patient was sitting with the body bent forward than it was when she lay down on the back. On inquiry he found that when the patient was six months old her mother had noticed that the right side of the abdomen was more prominent than the left. The case was probably akin to the common form of wry-neck due to organic shortening (contracture) of one sterno-mastoid in infants. The treatment had been instrumental and gymnastic. Improvement had been thus obtained through the stretching of the shortened rectus; it remained to be decided whether any marked gain would result from elongation of the left rectus by the simple plastic operation by Z-shaped incision. There was no abnormal reflex. In the absence of progressive myositis, &c., he concluded that the origin was congenital.—Mr. A. H. TUBBY asked if the condition was congenital or acquired and whether any reflex cause for the spasms of the muscle had been found.—Mr. MCGAVIN asked if there had been any traumatism at birth.

Mr. W. D. HARMER showed a man, aged 20 years, with Arthropathy of the Shoulder-joint in a case of Syringomyelia. The patient had sustained an injury to the left shoulder 12 months previously, followed by a swelling (? ruptured muscle), which gradually subsided. Eight months ago a painless swelling of the same joint occurred, commencing suddenly without injury. This was followed by two months' grating and "shifting of bone." The back had been curved for the last three or four years. There was no history of syphilis. The patient was short and was strongly built. There was no muscular wasting. The left shoulder-joint was uniformly enlarged. Movement was free as high as the level of the acromion process, but was attended with marked grating and luxation. When the arms were hanging there was an inch of lengthening of the left arm, due to the laxity of the ligaments. There were well-marked kyphosis and lateral curvature with convexity to the left. There had been numerous painless ulcers on the thumb and fingers of the left hand, commencing as bullæ. There was complete thermo-anæsthesia from about the fifth cervical to the third lumbar spines, including the arms. Analgesia was marked only over the front and the lateral aspect of the shoulder-joint; it was slight in the left hand. Tactile sense was normal. There was no loss of muscular pressure or of localisation senses. The knee-jerks were marked. There was no ankle-clonus. Nystagmus had been observed.—Mr. J. R. LUNN referred to a similar case in a man, aged 52 years, who had been under his observation for 10 years. This case was fully reported in vol. xxvii. of the Society's Transactions.

Mr. TUBBY and Dr. J. PURVES STEWART showed a case illustrating a New Method of Treating Old-standing Paralysis of the Upper Root of the Brachial Plexus. The patient, a man, aged 57 years, fell on to his shoulder and head two years ago. He was unconscious for an hour afterwards and on recovery was unable to use his left arm. After treatment at various hospitals without benefit he was admitted to Westminster Hospital under the care of Dr. W. Murrell. There were then marked paralysis and atrophy about the left shoulder and upper arm, and Dr. Purves Stewart reported total loss of electrical excitability in the deltoid, infraspinatus, biceps, brachialis anticus, and supinator longus on the left side, and consequent inability to adduct the arm or to flex the elbow. There was also some anæsthesia along the outer side of the upper arm and forearm, which subsequently disappeared. These symptoms pointed to a paralysis of the upper root of the brachial plexus of the Erb-Duchenne type. Mr. Tubby, 20 months after the accident, transferred part of the triceps and fixed it into the biceps with the object of restoring the power of flexion at the elbow, and a month later an attempt was made to restore power to the deltoid. Since the operation the transplanted portions of muscle had been assiduously massaged and the faradic current had been applied. There had been great improvement in the movements and in the utility of the limb. The patient could flex the elbow fairly and during flexion the transplanted part of the triceps could be felt in front of the elbow, and both galvanic and faradic excitability had returned. He had not yet recovered the power of abducting the arm, but the transplanted part of the pectoralis major could also be felt to harden. At first there was a total loss of excitability both to induction shocks and to the galvanic current. Three months after operation the galvanic excitability returned and six months after faradic reaction could be demonstrated.

Mr. HAROLD L. BARNARD showed a child who had come under his observation with the characteristic signs of COXA VARA. On questioning the mother he found that 18 months before the child had complained of pain in the hip and for three days had been unable to walk at all. Then he began to walk again, but the following year he commenced to limp. The signs were definitely those of coxa vara—viz., abduction was very much limited, internal rotation also very

limited, while flexion and adduction were free. No pain was complained of in the joint or on movement. The treatment so far had been a Thomas's knee-splint to keep the weight off the hip-joint, the mother objecting to any operation. The child had suffered from blood-spitting.—Mr. JACKSON CLARKE thought that no operation should be performed in these cases before the bone had become fully developed and that most cases did well with massage and exercises.—Mr. A. A. BOWLBY suggested that the condition coxa vara was often evidence of slight tuberculous affection of the hip-joint. He asked if there was either shortening or muscular wasting in this case, and if these were present he thought that the condition was probably tuberculous. There was no evidence of rickets in the case.—Mr. TUBBY thought that there was often considerable difficulty in distinguishing coxa vara from congenital dislocation of the hip.—Mr. BARNARD, in reply, said that he considered that neither wasting nor shortening was necessarily evidence of tuberculous disease of the hip.

Mr. BARNARD also showed a patient who had Compound Fracture of the Patella. This he had sutured with kangaroo tendon; suppuration followed and drainage of the knee-joint, bony union and good movement resulting.

Mr. J. HUTCHINSON, jun., showed a lad, aged 17 years, with Traumatic Separation of the Epiphysis of the Head of the Femur demonstrated by skiagraphy. The patient had had a fall, with probably forced extension and eversion of the right hip. He was unable to walk and complained of intense pain on passive movement of the right thigh. The latter was everted, as in most cases of impacted fracture of the femoral neck. There was no bruising over the trochanter or abnormal fulness in Scarpa's triangle. The right ilio-tibial band was slightly relaxed, but yet no shortening could be made out. Pressure on the trochanter did not cause pain. The Roentgen rays showed very plainly a separation of the femoral head exactly at the epiphyseal line, the epiphysis remaining in the acetabulum and being only in contact with the femoral neck to about half the normal extent. Under an anæsthetic the limb could be freely moved in all directions and a faint sort of crepitus was obtained. The eversion could easily be overcome, but when the extension was taken off the deformity at once recurred. The limb was put on a Liston's long splint and almost perfect apposition was obtained. Until the introduction of the x rays positive evidence as to the occurrence of traumatic separation of this epiphysis was singularly scanty.—Mr. BARNARD said that it had been shown by Royle Whitman that cases of this nature which occurred before the age of six years were usually fractures, whereas in the older patients they were usually cases of separation of the epiphysis.

Dr. W. EWART showed a patient with Major Dilatation of the Left Auricle. The distinctive physical signs were:—1. *Palpatory:* the definite systolic pulsations in the right mammary region, and the occasional thrill perceived there as well as at the apex, and the occasional pulsation of the liver. 2. *Auscultatory:* the identical character of the murmurs in both mammary regions, whilst in the interval between them and at the aortic interspace the systolic murmur, though easily perceptible, was much less loud; and the presystolic murmur, which, however, in this case was of inconstant character. 3. *Percussory:* the tracings exhibited showed the conditions which served as a basis for the diagnosis. *Anteriorly* the cardiac dulness was much enlarged in its transverse diameter and somewhat also in its vertical diameter, the liver being depressed as well as slightly enlarged, whilst at the base there was no dulness suggestive of an aneurysm. The left cardiac boundary, although further out than normal, presented no irregularity, and the right boundary did not differ much from that of a greatly enlarged right auricle. But *posteriorly* the dulness was characteristic. The dulness belonging to the heart was slightly enlarged, but that special to the left auricle was considerably increased (from a normal size of about two and a half inches by two inches to that of nearly four inches by two and a half inches) mainly in its transverse diameter and in the direction of the seat of abnormal pulsation, which by auscultation was identified as belonging to the left auricle.

Mr. ARTHUR E. J. BARKER showed a case of Excision of the Cæcum. The patient was a man, aged 30 years, who was operated on for acute intestinal obstruction on May 7th, 1899. The enormously distended and hypertrophied small intestine was first incised and five pints of liquid fæces were evacuated. The cause of the obstruction could then be made out to be a hard growth round the ileo-cæcal valve. The small gut, at about two feet from its termination, was therefore anastomosed laterally with the transverse colon. Six weeks later a fresh incision was made over the cæcum and the latter was excised with some inches of the ascending colon and ileum. Beyond the presence of a slight fæcal fistula for some weeks, recovery was perfect. The patient was now in excellent health, without any evidence of recurrence, two years and eight months after operation. The growth was a typical carcinoma.

Mr. BARKER also showed a case of Excision of the Transverse Colon in a woman, aged 58 years; who was operated on for carcinoma of the transverse colon and chronic obstruction on Oct. 25th, 1900. She was suffering at the time from long-standing diabetes. About four and a half to five inches of the transverse colon were removed and end-to-end anastomosis followed. The dressings remained untouched for 10 days. On their removal a small fæcal fistula was found, which discharged for some weeks. Recovery was otherwise uneventful. The growth was typical carcinoma. The patient had been in first-rate health ever since, and showed no evidence of recurrence.

Dr. NORMAN DALTON showed a case of Ataxic Paraplegia in a man, aged 53 years, who contracted syphilis two years previously. His present symptoms had been coming on about one year ago. His mind was sound, but he was emotional and excitable. His symptoms were partly those of locomotor ataxy and partly those of lateral sclerosis. The eyes and the upper limbs were normal. As a rule he stood fairly steadily with his eyes shut. He complained of "precipitate" micturition and defecation. In "walking" he brought his foot down forcibly on the heel as in ataxia, but he did not lift the knees and the legs were affected by a certain amount of stiffness. The muscles of the legs and thighs were rather flaccid. The electrical reactions were normal. The "knee-jerks" were greatly exaggerated, particularly on the left side, and ankle-clonus could be obtained always in the left foot. The plantar reflex was of the extensor type. There was no delayed sensation. He had complained of pains in the left leg, shooting from the hip to the foot, sometimes accompanied by twitching movements. In the right lower limb as high as the crest of the ilium (back and front), there was loss of painful sensation and of sensations of heat and cold. The sense of touch was retained and the sole of the foot was very sensitive to touch. There was no loss of the sense of position of the lower limbs. There had been no definite crisis, but he had had pains in the hypogastrium.

Dr. W. ESSEX WYNTER showed a case of Congenital Spinal Degeneration with Symmetrical Arthropathy in a young man, aged 17 years, who was kicked over the left eye by a horse at 14 years of age. Two years ago difficulty was experienced in walking, then it was noticed that the right hip was stiff. In May, 1901, the left hip was similarly affected, and by June there appeared to be no movement at all in either. On admission to hospital on Dec. 9th, 1901, both hips were completely fixed in a fully-extended position. There was some enlargement on the right trochanter. Measurement from the anterior superior spine to the internal malleolus was 33½ inches on both sides. Both trochanters were below Nélaton's line. Bryant's line: left, two and three-eighths inches; right, two and five-eighths inches. There was no wasting or loss of sensation or of muscular power. Electrical reactions were normal. The reflexes were uniformly exaggerated. The patient stood in a peculiar attitude, with the knees slightly flexed and the spine curved forward. He walked by rotating the pelvis and spine. After 14 days' treatment by iodide of mercury there was some movement in the left hip. The urine and the temperature were normal.

EPIDEMIOLOGICAL SOCIETY.

Dysentery in Asylums.

A MEETING of this society was held on Jan. 17th, Dr. PATRICK MANSON, C.M.G., F.R.S., the President, being in the chair.

The meeting was devoted to a discussion of the paper read on Dec. 13th, 1901, by Dr. F. W. MOTT on Asylum Dysentery, a short extract of which appeared in THE LANCET of Dec. 23rd, 1901, p. 1799, and copies of which, printed *in extenso*, as well as of one by Dr. J. W. Washbourn, C.M.G.,

on Dysentery in South Africa, and of contributions by members unable to be present, were distributed in the room.

After a *résumé* by Dr. MOTT of the salient points in his paper a contribution from Dr. P. J. BAILY was read by the SECRETARY, in which, after describing the symptoms of the disease in his own case, he gave an account of a succession of outbreaks at Hanwell Asylum during the past two years. 15 of the staff were attacked but none fatally, whereas among the inmates 13 in 48, or 27 per cent., of the males, and 9 in 47, or 19 per cent., of the females, died, the majority of the deaths among both sexes being those of general paralytics or of persons who were 70 years of age. A large proportion of the cases in 1901 were of persons, including one of the staff, who had suffered previously, and the infectious nature of the disease was well seen in a mild outbreak in a female ward last April, as was the value of prompt removal of the cases to isolation wards when circumstances permitted of its being carried out.

A short communication was read from Dr. CLAYE SHAW in which, while admitting that the disease as described by Dr. Mott differed in no respect from tropical or camp dysenteries, he maintained that there was an asylum dysentery distinct from dysentery in asylums, not bacterial and of extrinsic origin, but induced by degeneration and necrosis of the intestinal tissues dependent on the nerve changes inseparable from the general paralysis and like degenerations in the chronic insane, and that the cases that he had described as having occurred under his care at Banstead Asylum belonged to this class, arising from time to time independently of faulty sanitation or nursing and often more or less anomalous in their phenomena.

Colonel KENNETH MCLEOD, R.A.M.C., said that his first experience of dysentery was at the Durham County Asylum in 1864, a like outbreak occurring at the same time in the asylum at Carlisle, when he was much impressed by a paper by Dr. T. S. Clouston on Sewage Exhalation as a Cause of Dysentery, which, though now 50 years old, was still well deserving of study. Among 200 inmates there were 30 cases, 20 of which were fatal, occurring in small groups at short intervals between March and August, and one in the following March, ordinary diarrhœa prevailing at the same time and a few cases of enteric fever. No fault could be found with the food or the water, but the excreta were received in a huge cesspit and from time to time the putrid sewage was spread over a meadow. The cases, 24 of which were on the ground floor, always occurred from three to six days after such irrigation, provided the wind was blowing from that direction, except those in March, 1865, which followed a stoppage and opening up of the drain. One attendant and a labourer were also attacked. The like coincidence of the outbreaks with irrigation was observed at Carlisle, where the sewage tank was not covered as it was at Durham, confirming Dr. Clouston's view of its connexion with sewage exhalations, though the inmates might have contracted the diseases while engaged in the work of irrigation. He had seen much dysentery in India in jails, asylums, and hospitals, and among the general population, and latterly at Netley among men invalided from all parts of the world. In India it was always associated with overcrowding, insanitary conditions, and foul water-supply. In Calcutta the diphtheritic and worst form was very frequent, but wherever the new public service of pure water was substituted for that from the tanks used for bathing, &c., dysentery and other fæcal diseases were greatly reduced or ceased altogether. The dysentery which he had seen at Durham differed in no respect from that of India. The relations between dysentery and enteric fever, sometimes one and sometimes the other preceding, called for investigation, as did the persistence of dysentery in asylums when the general population, though amid more insanitary conditions, escaped. The insane were doubtless more susceptible from their want of decency and from their uncleanly habits, and less resistant from their lower vitality. Major Buchanan had described the "terminal dysentery" that carried off many phthisical patients and perhaps the majority of lepers. He deprecated the use of euphemisms as "ulcerative colitis" for what was simply dysentery and insisted on its essentially fæcal causation and preventability.

Dr. E. W. GOODALL criticised Dr. Claye Shaw's paper, whose remarks as to the non-occurrence of primary cases among the attendants in asylums might equally be applied to so obviously infectious a disease as diphtheria in hospitals, and he failed to see the "mystery" that Dr. Shaw found in asylum dysentery. He had at the Eastern Hospital, Homerton, a young woman who when convalescing from enteric fever died from "ulcerative colitis" or dysentery. He knew that some unreported cases of dysentery had occurred at Leavesden Asylum several years ago, and that in 1895 there were numerous cases of fatal diarrhœa. Some of these were very probably enteric fever, but the others were very obscure, and in none of the fatal cases was ulceration of the colon observed. Dr. A. Shadwell had suspected the water-supply. How, he asked, could the appearance of dysentery in asylums be accounted for when there was none outside?

After some remarks by Mr. SHIRLEY MURPHY and Dr. W. H. HAMER, Dr. STANSFIELD, in reply to Dr. Goodall's question, said that patients were constantly transferred from one asylum to another, and that the new asylums were at once filled by drafts from the older and overcrowded ones, many of the patients suffering from chronic or latent forms of the disease. He had thus had many cases at the County Asylum, Bexley, within the first three years, the initial cases in each outbreak having always been transfers, while the sanitary conditions of the asylum were perfect.

Dr. ÉRIC FRANCE held that no one with any experience of dysentery in asylums could doubt its specially infectious character. At Claybury Asylum after isolation was carried out the cases were far less numerous and the mortality only half as high as before, though perhaps the recognition of its infectivity by the attendants had as much to do with the improvement. Under ordinary circumstances he did not think that more isolation was necessary than was required with enteric fever, but the conditions of the insane in asylums were not ordinary owing to their filthy habits.

Dr. WILSON said that a patient having been admitted into the hospital at Trinidad from the gaol where dysentery prevailed communicated the disease to those in the bed on each side and to two others in the same ward.

Dr. WASHBOURN then read a paper by himself and Mr. OWEN RICHARDS on South African Dysentery and its Relation to that in Asylums, in which they described three types of the disease alike marked by bloody and mucous stools, fever, tenesmus, and abdominal pain in different degrees. The normal type, with its febrile stage lasting a week, the temperature ranging between 101° F. in the morning and 104° in the evening, and thick white fur on the tongue, the symptoms subsiding in a week or becoming chronic unless death occurred in the first week from the fever itself or subsequently from perforation, peritonitis, or exhaustion. The second type comprised mild non-febrile cases soon recovering, and the third was distinguished by the pyrexia continued for three or four weeks, with perhaps an entire absence of blood and mucus, the bowels being either loose or constipated. These cases were often taken for enteric fever, but were doubtless due, like the typhoid form of scarlet fever, to secondary septic invasion. The mortality in South Africa had been low, the patients being healthy young men—only 1·86 per cent. in the Imperial Yeomanry Hospital at Pretoria. Liver abscess was rare and in one case the pus was full of streptococci and bacilli, thus differing from the usual tropical form. The cæcum and rectum were most affected, the lesions being thickening of the walls with hæmorrhages and ulceration, and perforation being the most frequent cause of death. There were no amœbæ in the contents of the intestine or of the abscesses.

Dr. H. D. ROLLESTON, who succeeded Dr. Washbourn at Pretoria, said that in the absence of amœbæ and of the sterile abscesses of tropical dysentery these cases corresponded to those described by Shiga in Japan. In his sections the inflammation appeared to have begun in the mucous, and not, as Dr. Mott maintained, in the submucous, layers, which might point to a different causation though the clinical phenomena were the same.

Dr. WASHBOURN then read a communication from Dr. T. Dunlop, describing an Outbreak of Dysentery at Aldershot in August and September last. It had never been known in the district before, but the diagnosis was confirmed at once by Dr. Washbourn, Lieutenant-Colonel Franklin, R.A.M.C., Dr. Donald of Uganda, and others. There was diarrhœa, followed by blood and mucus, and great tenesmus, but not much fever or pain. The cases were 170 or 180, with 38 deaths, about 27 per cent., 28 of these being of children under five years of age. Its infectivity was very marked. No cause could be detected, the most insanitary quarter of the town escaped, and the water-supply was the same as was that of the camp where one case only occurred.

Mr. E. J. F. HARDENBERG described 19 cases in the same outbreak that had been under his care, of which

12, with three deaths, were those of children; the other seven cases were adults, the oldest being 71 years of age, all of whom recovered. They were confined to one district, some of the houses being filthy, but others scrupulously clean, and in them every precaution was taken, but the infectivity of the disease was equally evident in all. He noticed pyrexia in most cases, the highest temperature being 103° F. in a child; there was abdominal pain but there were no complications; prostration and collapse were marked and were the cause of death in all the three children.

Colonel DAVID BRUCE, R.A.M.C., had for three months worked in a laboratory in South Africa. Amœbæ were found in one only of 30 cases examined and he doubted the existence of an amœbic dysentery. The organs were all sterile, as was the mucus, but so soon as it was mixed with fæcal matter it swarmed with bacteria, rendering the detection of the specific organism as yet impossible. He had isolated a series of the so-called "coli" group, presenting every gradation of characters, positive and negative, and agglutination experiments were conflicting. Flexner's and Shiga's bacilli belonged, he thought, to this group, no one of which was the cause. The inflammation was, he believed, always submucous in the first instance, and there might be no ulceration.

The PRESIDENT considered that Dr. Mott had done a public service in calling attention to a preventable disease in asylums, and the London County Council deserved credit for boldly instituting and publishing the results of the inquiry. He deprecated such aggregation even of sound men, much more of the insane and infirm, as tending to develop disease, and animadverted on the instruction of attendants in psychology while the elements of hygiene were ignored.

Dr. MOTT, in his reply, expressed his belief that Dr. Shaw's views had changed considerably. He, too, recognised the "weakness of the bowel" in insane paralytics, but only as tending to render them more susceptible to infection, and not as an essential cause of dysentery, which was everywhere the same disease and equally avoidable in asylums as elsewhere. At Claybury Hall 25 per cent. of the patients suffered from general paralysis, but there had been no case of dysentery in six years. Its introduction into asylums was by means of transfers, many of whom had the disease in the recurrent form, and with these the new institutions were filled. As to irrigation he knew that at Claybury Asylum patients engaged in the work ate without washing their hands and that lettuces were watered with the raw sewage.

LIVERPOOL MEDICAL INSTITUTION.

Adjourned Discussion on Sir William Banks's Paper on Mammary Cancer.

A SPECIAL meeting of the Pathological and Microscopical Section of the Liverpool Medical Institution was held on Jan. 23rd, Mr. RUSHTON PARKER, the President, being in the chair.

Mr. KEITH W. MONSARRAT, in opening the adjourned discussion on Sir William Banks's paper on Mammary Cancer, said that he considered it probable that carcinoma originated from a variety of causes. There was certainly evidence to show that certain of the new growths at present grouped together as carcinomata were pathologically and etiologically distinct. He wished to discuss particularly the relation of carcinoma mammæ and mastitis. The study of sections did not support, in his opinion, the theory of Ribbert that carcinomatous changes were primarily due to proliferation of the connective tissue; on the contrary, the "invasion" was from the side of the epithelial element. He further discussed the ways in which mastitis might conceivably be related to the carcinomatous proliferation. Although he had been successful in isolating certain organisms from cancerous growths he had not hitherto produced by their inoculation new formations that could legitimately be called carcinomatous.

Dr. A. C. RENDLE said that whereas the cell theory threw no light on the difference between malignant and non-malignant neoplasms, the germ theory had not explained the fact that secondary growths invariably copied the primary type. Still he did not think it proper to deny the strong probability that the malignant properties of the cancer cell were due to the action of a parasite.

Mr. H. G. PLIMMER (London) expressed his reasons for thinking that the parasitic theory afforded a reasonable explanation of epithelial cancer. He showed lantern slides illustrating the cell inclusions on the one hand and also the organisms which he had isolated from carcinomata and the epithelial overgrowth produced by their inoculation.

Mr. H. J. STILES (Edinburgh) exhibited microphotographs illustrating his view that the so-called "cell inclusions" originated in degenerations and dropsical changes in the nuclei.

Dr. R. J. M. BUCHANAN referred to the subject in relation to heredity on the one hand and the parasitic theory on the other. In view of the transmission of minute details of conformation and disposition from parent to offspring through the agency of the spermatozoon, he thought it a legitimate consideration that peculiarities of cell reproduction should also be transmitted, and that the characteristics of cell structure as seen in cancer growths might in some way be associated with stages in karyokinesis. Dr. Buchanan exhibited a specimen of *tradescantia virginica*, showing various stages of cell division, and he drew attention to the fact that nuclei of many cells at a similar stage presented structures closely resembling cancer bodies. He referred to the importance of the centrosome in cell division and to the possibility that cancer bodies might be of centrosomic origin and expressive of an exaggerated or abnormal condition of the centrosome. The question of hereditary transmission he considered applicable both to the developmental and parasitic theories: in the former as reproducing special peculiarities in the life-history of cells, in the latter as reproducing a soil susceptible in high degree to parasitic invasion. Referring to the parasitic theory in relation to the etiology of carcinoma Dr. Buchanan stated that his endeavours to grow the so-called parasite had proved unsuccessful, and that he was not fully satisfied with the results of other observers in view of the grave possibilities of contamination and the lack of evidence that inoculations of organisms isolated from cancer had reproduced this disease. This might reasonably be due to differences in experimental technique. As an advocate in the belief that cancer would ultimately be proved to be of parasitic origin he emphasised the desirability of working further afield in the direction of comparative histology and pathology in order to eliminate all source of error. Apart from the purely experimental method of procedure in the endeavour to isolate an organism from, and to reproduce, cancer by inoculation of animal tissues with it, Dr. Buchanan considered that some consideration should be given to the circumstantial evidence in favour of the parasitic theory as offered by records of geographical distribution, the existence of "cancer houses," and conditions of environment associated with the occurrence of the disease. Relative to this he did not accept the statement by Sir William Banks of his conviction that cancer was more prevalent in people who indulged largely in flesh meat as an article of diet. On the other hand, Dr. Buchanan was of opinion that cancer was more closely associated with indulgence in raw vegetables as articles of diet. In his belief in the parasitic theory of cancer he ventured to suggest that the parasite most probably was introduced into the body through the medium of some lower form of animal life which was in constant association with such vegetable growths as were used for food. On inquiry in certain cases of cancer he had noted that the houses in which the affected individuals resided were infested with snails to a remarkable degree, and in many cases the victims had been addicted to indulgence in salads as articles of diet.

Mr. GEORGE G. HAMILTON, who showed a number of casts, drawings, and microscopical sections, regarded chronic mastitis as a very serious disease and was in the habit of incising breasts so affected at an early stage under a local anæsthetic and removing portions for examination. He had seen tuberculosis of the breast mistaken for carcinoma in two instances. He did not agree with some of Mr. Plimmer's views on the physiological properties of epithelium, and particularly the idea that it exercised universally a protective property against invasion; he looked upon experiments on animals by feeding with tuberculous material as evidence against such a conception.

The PRESIDENT drew attention to the claims of M. Doyen to have discovered a micrococcus which he maintains to be the universal cause of new growths.

Sir WILLIAM BANKS, in his reply, referred to Mr. Plimmer's statement that the cell inclusions of carcinoma were peculiar to that disease and were not found in normal tissues or in other morbid conditions. He showed a series of

lantern slides illustrative of the development of carcinoma from breasts affected with chronic mastitis.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Recurrent Papilloma of the Vagina.—Election of Officers.

THE annual meeting of this society was held at Manchester on Jan. 17th, Dr. S. BUCKLEY (Manchester), the President, being in the chair.

Dr. A. DONALD (Manchester) exhibited two specimens of Tubal Mole. In each case the occurrence of hæmorrhage at about the sixth week had destroyed the life of the ovum without leading to rupture of the tube. Each tube contained a mass of clot embedding an embryo surrounded by its amnion, but with no trace of liquor amnii. No blood or clot was found in the peritoneal cavity. In one case there had been nearly two months' amenorrhœa; in the other the menstrual period had not been missed. In both the bleeding was profuse and lasted for six weeks, and a well-defined tumour was felt on one side of the uterus. The tubes were removed by abdominal section in the first case and by anterior vaginal section in the second. Both patients made a good recovery.

Dr. DONALD and Dr. W. E. FOTHERGILL (Manchester) showed sections from a case of Folliculoma Ovarii Malignum. The tumour, of about the size of a cocoa-nut, was hard, solid, and nodular. It was removed from a single woman, aged 57 years. The clinical features of the case suggested malignancy. There were wasting, pain, and ascites. The sections showed the growth to consist of alveoli filled with epithelial cells and embedded in a fibrous stroma. The alveoli varied in size and some of them contained one or more large cells presenting the characters of egg cells in various stages of development.

Dr. FOTHERGILL also showed a series of sections of Uterine Casts from cases of Membranous Dysmenorrhœa. The casts were all shown to be composed of fibrin and leucocytes. Dr. Fothergill had examined many such casts and had never found any composed of mucosa with a lined cavity such as were frequently described.

Dr. J. B. HELLIER (Leeds) showed an Early Ruptured Tubal Gestation. The patient, a woman, aged 35 years, who had been married for 11 years, had had one doubtful abortion some years ago. She did not suspect pregnancy and menstruation was quite regular. While cycling she was seized with sudden abdominal pain and faintness. Internal hæmorrhage was suspected and abdominal section was performed. Much dark blood-clot was found in the peritoneum. A very small tubal pregnancy had caused rupture of the right Fallopian tube, which was removed. The patient made a good recovery.

Dr. W. WALTER (Manchester) showed a specimen of Fibromyoma of the Uterus removed from a single woman, aged 39 years, by Abdominal Hysterectomy. The patient had suffered from pain and hæmorrhage for some time and for eight months was unable to follow her occupation. On Jan. 14th abdominal section was performed. The broad ligaments were tied and divided in the usual way and the uterus was removed with a wedge-shaped incision just above the vaginal roof. The cervix was dilated from above downwards with a pair of Spencer Wells small forceps and a narrow gauze drain was passed through into the vagina. The ligatures were cut short and the peritoneum was stitched over the stump with fine silk sutures, except at a small spot in the centre where the end of the gauze served as a drain. The abdominal wall was closed with uninterrupted silkworm sutures, in addition to which buried catgut was used for the muscle and fascia. The specimen, consisting of a submucous fibroid attached to the fundus and anterior wall of the uterus, was undergoing in some parts myxomatous, and in other parts fatty, degeneration. The patient was progressing favourably so far, but without including this case Dr. Walter had just completed a series of 35 abdominal hysterectomies for myoma with one death.

Dr. WALTER also gave an account of a case of Recurrent Papilloma of the Vagina. The patient, an unmarried woman, aged 37 years, was admitted into St. Mary's Hospital, Manchester, in August, 1898, complaining of bleeding from the vagina between the periods which had continued off and on for several months. Her general condition was good. The uterus and other pelvic organs were healthy. Inside the vagina on the posterior wall was a small papilloma which bled readily. This was curetted and the thermo-cautery was applied freely. The microscopical character of the scrapings presented the appearance of a simple papilloma with no sign of malignancy. In November, 1898, the patient re-entered the hospital, as the papilloma was commencing to recur. The cautery was again applied. The following year on two occasions similar treatment was necessary. In 1900 the patient was re-admitted in June and in December. The patches were larger in size than formerly, but they were still quite superficial and were free from any deep-seated attachment. The cautery was applied to the affected surface. Last year, in March, July, October, and December, the patches had returned and were spreading upwards on the posterior and left wall. In December it was found that infiltration into the peri-vaginal tissue on the posterior and left side had occurred since her previous visit. As the vagina was extremely narrow the perineum was divided and the part was exposed to view. A patch of mucous membrane of the size of a shilling with a raised and granulating surface, together with a small growth nearly as large as a filbert nut, were removed and the vagina was packed with gauze. The microscopical appearance of the growth showed a fibrous and elastic tissue matrix containing a considerable number of cell nests.

The following officers were elected for the year 1902:—President: Dr. S. Buckley. Honorary treasurer: Mr. Richard Favell (Sheffield). Honorary general secretary: Dr. E. Octavius Croft (Leeds). Honorary local secretaries: Dr. John Scott (Manchester), Dr. Arthur J. Wallace (Liverpool), Mr. Walter Thompson (Leeds), and Mr. Sidney F. Barber (Sheffield).

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Vaccinia.—Disease of Vertebræ and Humerus.

A MEETING of this section was held on Jan. 10th, Professor E. J. MCWEENEY, the President, being in the chair.

The PRESIDENT, who was temporarily replaced in the chair by Dr. H. C. EARL, read a paper on the Present State of our Knowledge as to the Etiology of Vaccinia. He said that since the work of von Thieme, Ceely, Voigt, and Fischer there could be no doubt that vaccinia was merely small-pox modified by passage through the calf. The microbic etiology of the two diseases must therefore be identical. Since the commencement of the bacteriological epoch repeated and unsuccessful endeavours had been made to establish a bacterial etiology for these maladies. Among the most recent of these attempts might be cited those of Klein, Copeman, Kent, Nakanishi, and Czaplewski and Vanselow. Mann had demonstrated that in sections of vaccine tissue appearances closely resembling micro-organisms, but really consisting of granular or rod-like precipitates of stain—mere artefacts—might be produced in the process of carrying out Gram's method. The bacillus of Nakanishi was at once recognisable by anyone familiar with the microbic flora of the calf's skin as the xerosis bacillus, which closely resembled that of diphtheria but was harmless. The micrococcus quadrigeminus of the last-named observers had been recently admitted by themselves to be devoid of all etiological relation to the vaccine process. The attempts to prove that variola and vaccinia were due to a parasitic protozoon were begun in 1886 by van der Loeff, continued by L. Pfeiffer of Weimar, and still further developed by Guarnieri of Pisa, and by Pfeiffer's pupil, von Wasielewsky. To Guarnieri belonged the credit of having selected as the field of observation the rabbit's cornea, a transparent, non-vascular structure, in which the histological events could be observed uncomplicated by the vascular and exudative phenomena of inflammation. Guarnieri saw in the epithelial cells of the inoculated cornea rounded bodies varying in size from that of a minute coccus to about one-third of that of an epithelial nucleus. They lay in the protoplasm, often close to, and even indenting, the nucleus. Amœboid movements were observable on the warm stage, and Ernst Pfeiffer saw the bodies lying *between* the epithelial cells an hour after vaccination, and *within* them a few hours later. Several observers, such as Ferroni and Massari, Salmon, and others,

had endeavoured to explain these bodies as resulting from irritation of a non-specific kind. But Hückel, whilst not admitting their parasitic nature, had been led to infer that they were the result of some alteration of the cell produced by the parasite or its toxin. E. Pfeiffer had shown that lymph that had lost its activity through filtration or otherwise was incapable of producing "bodies" in the corneal epithelium. Wasielewski had propagated the vaccine virus on the rabbits' cornea for 43 generations, and used the corneal epithelium scraped off the forty-third consecutive rabbit for vaccinating children and produced a large percentage of typical vesicles. The only feature presented by such virulent epithelium and not presented under any circumstances by normal or otherwise irritated epithelium was the presence of the "bodies" described by Guarnieri. For this reason it was difficult to escape from the conclusion that the "bodies" were the carriers of the infection. Beyond the seeming existence of a nucleus the most careful examination had failed to reveal much structure in the "bodies" as found in the infected epithelium, and as to their reproduction and developmental cycle little or nothing was known. Through the kindness of Dr. Gustave Mann of the Physiological Laboratory, Oxford, the President was enabled to show the several stages in the evolution of the vaccine vesicle, illustrated by lantern slides and actual preparations, and he also exhibited slides and sections of the inoculated rabbit cornea in which every cell was seen to harbour one or more "bodies."

Mr. J. P. DOYLE read a paper on Disease of Two Upper Cervical Vertebræ and Upper Part of the Left Humerus. The patient, a boy, aged nine years, was admitted to St. Joseph's Hospital, under the care of Mr. Doyle, on Sept. 6th, 1901. On Dec. 4th he died suddenly. At the necropsy Mr. Doyle found that the anterior surface of the occipital bone and the first and second cervical vertebræ with their intermediate anterior portion were very much eroded. The odontoid process of the axis was considerably diseased and by the giving way of the transverse ligament the process pressed on the upper portion of the spinal cord and thus caused sudden death.—Dr. MONTGOMERY moved, Dr. WATSON seconded, and it was resolved that Mr. Doyle's paper should be sent to the Reference Committee.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 16th, Dr. C. H. Willey, the President, being in the chair.—Dr. S. White exhibited the following specimens and case: 1. Phosphatic Calculi and Prostatic Tissue removed Suprapubically from a patient, aged 63 years, who had been suffering from enlarged prostate. 2. An Excised Gastric Ulcer removed from the Anterior Wall of the Stomach of a man, aged 24 years. The ulcer had existed for two years and had perforated 18 months previously, but owing to extensive adhesions the general peritoneum had not been fouled. The ulcer was about an inch in diameter and was funnel-shaped. The walls of the stomach around the ulcer were fully one-third of an inch in thickness and a dense band of fibrous tissue united the ulcerated area to the anterior abdominal wall. The patient was now quite free from his old symptoms. 3. A child, aged two years, the subject of Retroversion of the Bladder, in whom the ureters had been transplanted into the rectum by the extra-peritoneal method described by Dr. Peters of Canada. This operation was described and criticised.—Dr. A. J. Hall showed the following cases:—1. A case of Acute Myelitis in which the first lesion had occurred in the lower thoracic region of the cord. The onset was accompanied by pyrexia, diarrhœa, and vomiting. An interesting feature was the presence of a circular ring of acute bedsore due to the pressure of the rim of a chamber-pot on which the patient had been placed for some hours before admission on account of his diarrhœa. About five days after his first attack paralysis of both arms, dysphagia, and paralysis of the tongue occurred, and the patient became temporarily insane. These symptoms lasted for about a week. The patient made a complete recovery. 2. A case of Occupation Neurosis. The patient was a single man, aged 43 years, a bricklayer, who had noticed weakness of the right hand following upon influenza two years before. The loss of power was most marked on using his trowel, and was accompanied by numbness and occasional stiffness. Tremors and pain occurred on excitement. To show the psychical element in the condition the facts were adduced that the patient witnessed the sudden death of his father by accident five years ago and that the affection was improved by stimulants and arrested by a rubber ring on the finger. 3. A case of Trade Eczema of 11 years' duration affecting the hands and arms in a polisher who worked in rouge. The patient had been previously shown to the society and since then had been applying calamine gelatin daily over the dorsa of the fingers, hands, and forearms, with the result that she had been perfectly free from eczema for several weeks.—Dr. G. Wilkinson related two cases of Successful Operation for Ruptured Intestine. In the first case a boy, aged 12 years, was stabbed in the lower abdomen with a pocket-knife. The intestine was wounded in two places and the mesentery in one. There were much bleeding and some extravasation of fæces. Resection of the wounded portion of intestine was performed and the ends were united over a Mayo Robson bone bobbin. The second case was that of a boy, aged 11 years, who was kicked in the abdomen by a horse. Dr. Wilkinson saw him 24 hours later when signs of acute general peritonitis were present. The abdomen was opened by an incision eight inches in length in the middle line. A circular hole half an inch in diameter was found in the ileum and was sutured. A large fæcal collection was found in the lower part of the abdomen and general septic peritonitis was present. After wiping out the extravasated fæcal matter thorough irrigation of the abdomen was performed. The abdomen was closed without drainage. Though much collapsed after the operation the patient eventually made a good recovery.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 15th, Dr. E. C. Kingdon, the President, being in the chair.—Miss Sarah Gray read a paper entitled, "Is Alcohol properly described as a Stimulant?" The paper dealt with the question whether the action of alcohol on the human body was predominantly that of a stimulant (defined as "something which produces activity") or whether by inhibiting nervous centres in inverse order of their development it produced only a factitious and transitory display of energy due to over-action of centres below those inhibited. The effect on nervous tissue, especially on that of the highest cerebral centres, was regarded as of primary importance. Experimental work by Kräpelin, Fürer, Aschaffenberg, Hodge Killogg, and others was cited to show that this effect was uniformly depressant for higher centres and also depressant after a brief initial acceleration for lower centres. With regard to muscular work the experiments of Frey and Destree were quoted as supporting those of Parkes. The effect on the heart was particularly discussed, and in the absence of decisive physiological and pathological experiment clinical evidence with regard to treatment of diseases, such as enteric fever, diphtheria, and septic peritonitis, with and without alcohol, was adduced from Knox Bond, MacNicholl of New York, G. B. Davis of Chicago, and others. Their evidence seemed to show that the results obtained without alcohol were better than were those which were obtained with alcohol, when "true" cardiac stimulants were used, such as caffeine and strychnine. Mortality, it was stated, in septic peritonitis had been reduced by such treatment from 85 5 per cent. to 14 per cent. The results of treatment at the London Temperance Hospital were also cited. The effect of alcohol on digestion was very briefly discussed. In conclusion, a plea for more exact study of the subject and the formation of more accurate and fully-considered views of the action of alcohol as a drug was urged.—In the discussion which followed the following members took part—viz., the President, Dr. C. H. Cattle, Dr. A. Fulton, Dr. J. S. Bolton, Dr. W. Hunter, Mr. T. Geraty, Mr. J. H. Cox, and Dr. T. A. Clinch, and Miss Gray replied.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The fourth meeting of the session of this society was held on Jan. 22nd, Mr. W. B. Holderness, J.P., the President, being in the chair.—Microscopical preparations were exhibited illustrating certain morbid conditions of the Ovary, including Papilloma, Carcinoma, and Cystic Disease. The sections were lent by Dr. G. Leslie Eastes.—The President showed: 1. A case of Locomotor Ataxia in a man, aged 46 years. There was very marked affection of the knee-joints and the Argyll-Robertson phenomenon was present. There was a distinct specific history. 2. A case of Morbus Cordis following an attack of Subacute Rheumatism. Both apical and basic murmurs were present.—Captain F. S. Brereton, R.A.M.C., showed a case of Enlargement of the Testis following a

blow.—Mr. J. W. Gooch introduced a discussion upon the question, "What is the Best Mode of Conducting Normal Labour?" After a few brief introductory remarks the questions of the choice and arrangement of the lying-in room and the dress and preparation of the patient were entered into as far as possible. The methods adopted for cleansing the hands and the question of the lubricant were discussed in detail, and a description was given of the means often adopted by the speaker for the purpose of expediting the normal course of labour. Mr. Gooch advocated a more frequent use of the forceps than is commonly advised in the schools, the short instrument of Assilini being much commended. The uses of ergot and chloroform in the various stages of labour were next discussed and allusion was made to the advantages to be gained by the application of the binder before delivery. The question of the douche after labour was next entered into, the opinion of the speaker being that bathing the external genitals with antiseptics was of more importance than the douche.—The discussion was continued by Mr. J. Brickwell (Slough), Dr. G. J. Sealy (Weybridge), Mr. W. A. U. Thomson (Maidenhead), and Mr. W. Netterville Barron (Ascot), all of whom were in agreement with Mr. Gooch in the matter of frequent use of forceps, while on the questions of the use of chloroform and ergot and of the douche considerable diversity of opinion was found to prevail.—Dr. P. J. A. Seccombe of West Drayton was elected by ballot a member of the society.

NEWCASTLE-UPON-TYNE CLINICAL SOCIETY.—A meeting of this society was held on Jan. 16th, Dr. O. W. Ogden, the President, being in the chair.—Dr. R. P. Ranken Lyle showed a case with Sequestration Axillary Mammæ. In each axilla there was a mass of the size of a kidney. The mass in the left axilla was rather larger than was that in the right. The masses had a soft, solid, lobulated feel. The mass in the left axilla being a little inflamed was rather tender. There were no supernumerary nipples. The patient was suckling her third child. The history of these masses was that after her second parturition she noticed a small lump of about the size of a walnut in each axilla. On the third day after her last—i.e., her third—parturition these lumps became much bigger. Dr. Lyle pointed out that there were some lobules separated from the breast near the sternum. He considered sequestration mammæ to be commonest near the sternum or in the groin, while in the axilla they were rare. He recommended these masses to be excised, as he considered that they would become larger and more inflamed if another pregnancy occurred.—Mr. W. G. Richardson showed a specimen of Molluscum Fibrosum. The growth, which was of the size of a child's head, had been removed from the region of the right elbow of a man, aged 50 years. The growth was covered with thickened, dark-brown, puckered skin. The man had had this thick skin all his life and had suffered from the growth for 11 months. Sections of the thick skin showed it to contain a large amount of fibrous tissue, while sections of the growth underlying it showed it to be spindle-celled sarcoma. The patient recovered from the operation and went back to the country where he was a farmer. The further history of the case was that in four months he developed some lung trouble with hæmoptysis and died. Mr. Richardson considered that he had died from secondary growths in the lung. He considered that the new growth in the skin was molluscum fibrosum. He referred to Dr. Alexis Thomson's book, where cases of molluscum fibrosum had been shown to be of the nature of false neuromata, the thickened skin being due to overgrowth of the endoneurium of the cutaneous nerves.

HARVEIAN SOCIETY OF LONDON.—The annual meeting of this society was held on Jan. 16th, Dr. D. B. Lees, the President, being in the chair.—The following gentlemen were unanimously elected officers of the society for the year 1902:—President: Mr. W. Watson Cheyne. Vice-Presidents: Dr. H. A. Caley, Dr. F. W. Cock, Mr. J. Jackson Clarke, and Dr. L. G. Guthrie. Treasurer: Mr. Edmund W. Roughton. Honorary secretaries: Dr. Edmund Cautley and Mr. Francis Jaffrey. Council: Dr. Edgar G. Bulleid, Dr. C. Buttar, Mr. H. S. Collier, Dr. A. Eddowes, Mr. Raymond Johnson, Dr. D. B. Lees, Dr. H. J. Macevoy, Mr. Hubert C. Phillips, Dr. J. S. Risien Russell, Mr. J. Sefton Sewill, Dr. G. A. Sutherland, and Dr. James Taylor.—The reports of the council and the treasurer showed that the number of members exceeded 400 and that the society had a credit balance of over £125.—Votes of thanks to the President, the treasurer (Mr. Edmund Roughton), and the secretaries, especially the retiring secretary (Mr. Hubert C. Phillips), for their valuable services during the year were carried and were suitably acknowledged.—The President delivered an address on the Heart of the Child, which appears in full at p. 279 of the present issue of THE LANCET. A vote of thanks to the President for his interesting address was carried with acclamation.—On receiving the report of the election from the scrutineers (Dr. E. Symes-Thompson and Dr. W. H. Blenkinsop) the President declared the result and inducted the new President (Mr. W. Watson Cheyne) into the chair. Mr. Watson Cheyne briefly returned thanks for the honour conferred on him and declared the conversazione open.—A lantern demonstration was given by Mr. Frank Crosbie, showing a method of producing photographic transparencies in colour.—Mr. Noble Smith exhibited microscopical illustrations of Abnormal Gaits, &c., in Various Nervous Diseases, and a collection of Histological and other Water-colour Drawings.—Mr. Hubert C. Phillips, F.E.S., exhibited a valuable collection of British Lepidoptera with Original Water-colour Drawings from Nature.—Music was provided by the string band of His Majesty's Royal Horse Guards (Blue), by permission of Colonel Lord Binning.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Jan. 24th, Dr. Arthur T. Davies, the President, being in the chair.—Mr. A. Q. Silcock read the notes of two cases. The first case was that of a man, aged 30 years, who was admitted to St. Mary's Hospital with a history of Abdominal Pain of one week's duration. On admission the patient had a distressed look, with thoracic respirations and general tenderness over the abdomen which was specially marked in the right iliac fossa. There was no distension. The temperature was 100° F. Appendicitis was diagnosed. At the time of operation, when under the anæsthetic, a rounded, hard, non-fluctuating tumour was found reaching from the lower edge of the liver to the umbilicus. This was opened. It proved to be the gall-bladder, and a large quantity (a pint) of mucus was evacuated, followed by some muco-purulent discharge. No gall-stones were found. The gall-bladder was sutured to the abdominal wound and a biliary fistula resulted. Otherwise the patient made an uninterrupted recovery. In the second case the patient, a man, was admitted into St. Mary's Hospital under medical treatment with a history of Marked Jaundice of three months' duration. The liver was enlarged and the gall-bladder was distended. No surgical treatment was adopted and the patient finally developed purpura, became comatose, and died. Post mortem the gall-bladder and the hepatic and common bile ducts were very much distended with mucus. The head of the pancreas was hard and swollen, but whether from chronic inflammation or from new growth had not yet been determined. There was some perihepatitis and scarring of the edge of the liver, probably syphilitic.—In connexion with the first of the cases Mr. A. W. Galloway related cases bearing on the difficulty in making an accurate diagnosis in appendicitis.—The point raised by Mr. Silcock for discussion with regard to the second case was whether it would not have been advisable to call in surgical aid in the treatment of the case with the view of opening and draining the gall-bladder and thus relieving the symptoms.—The President concurred in this view.—Mr. R. Brown also agreed with Mr. Silcock and he drew attention to the similarity of the fatal symptoms in this case to those of acute yellow atrophy of the liver.

GLASGOW SOUTHERN MEDICAL SOCIETY.—An ordinary meeting of this society was held on Jan. 23rd, Dr. John Stewart, the President, being in the chair.—Mr. R. H. Parry showed the following group of surgical cases—viz., (1) a case in which there had been Rupture of the Thoracic Duct; (2) Excision of a Stricture of the Urethra and Immediate Approximation of the Divided Ends of the Urethra; (3) Excision of the Tongue and Half of the Lower Jaw for Carcinoma of the Floor of the Mouth; (4) Excision of Tuberculous Glands from the Anterior and Posterior Triangles of the Neck through an Incision in the Hairy Scalp; (5) a Cerebral Tumour (Glioma Sarcoma) removed by raising a large osteoplastic flap; (6) Injury to the Fifth Cervical Nerve, Paralysis of the Deltoid, Biceps, Brachialis Anticus, and Supinator Longus Muscles; (7) Idiopathic Dilatation of the Colon in the treatment of which the ileum had been joined to the rectum; (8) Rupture of the Gall-bladder, Escape of Pus into the

Peritoneal Cavity, followed by Diffuse Purulent Peritonitis; (9) Idiopathic Dilatation of the Stomach and Removal of a Large Stricture of the Lower End of the Ileum; and (10) cases illustrating the Common Errors in the Diagnosis of Lesions on the Right Side of the Abdomen.—At the close of the demonstration Mr. Parry received the cordial thanks of the society on the motion of the President.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Jan. 22nd, Dr. A. J. Harrison, the President, being in the chair.—Dr. A. Eddowes showed a case of Lichen Planus.—Dr. N. Meachen showed a case of Tuberculides.—Dr. P. S. Abraham showed: (1) A case of Parakeratosis Variegata in a young woman; (2) Lupus Erythematosus; (3) Lupus Vulgaris on the Elbow; and (4) Erythema ab Igne in a boy, aged 10 years.—Dr. Graham Little showed: (1) A case of Cutaneous Tuberculides; (2) Doubtful Eruption in an infant, possibly specific, but considered by some members to be a bromide eruption; (3) Comedones on the back and front of the chest in a young child, aged 12 months; and (4) a case of Œdema Neonatorum.—Mr. A. Shillitoe showed: (1) A case of Small Papular (Lichenoid) Syphilide; (2) Leukoplasia Cervicis; (3) Tertiary Tuberculated Syphilide; and (4) Secondary Eruption in a Much-tattooed Subject.—Dr. Little also showed microscopical specimens from a case of Syphilis with Keloid-like Eruption, exhibited by Mr. Shillitoe at a former meeting.—Dr. Eddowes also showed microscopical specimens: (1) Papule of Eczema; (2) Micro-bacilli on a Hair taken from a Leucodermic Patch; and (3) Epithelioma of the Face.

Reviews and Notices of Books.

The Surgical and Medical History of the Naval War between Japan and China during 1894-95. Translated from the original Japanese Report, under the direction of Baron SANEYOSHI, F.R.C.S. Eng., &c., Director-General of the Medical Department of the Imperial Japanese Navy, by S. SUZUKI, M.R.C.S. Eng., L.R.C.P. Lond., &c., Deputy-Inspector-General of Hospitals and Fleets, Imperial Japanese Navy. Tokio: Printed by the Tokio Printing Company, Limited. 1901. Pp. 544.

THE Japanese are a very remarkable people. They have given so many proofs of their national courage, patriotism, enterprise, and energy—physical and intellectual—in their comparatively brief historical record that no one doubts their possession of these qualities or hesitates to form a high opinion as to the part which Japan is destined to play in the history of the future. It is not merely that the receptive faculties of the Japanese are so large and keen—for they share these with many Eastern peoples—but it is because they are so progressive and teachable that they assimilate and develop what they learn and turn it to account that they naturally excite a good deal of speculative interest as to their future.

The publication of this work, which is likely to prove valuable and to be frequently referred to hereafter, may be taken, for example, as a case in point. Japan proved herself to be no mean naval power in her war with China, and animated by a desire to put the medical history of that war on record her naval medical service has had the enterprise and industry to give effect to it by the preparation and production of the large and well-illustrated report before us. Its interest mainly consists in the fact that while so much has been written, and is still being written, about wounds received in wars on land we possess no medical history of naval warfare at sea. As is pertinently pointed out in the preface, the lessons of Trafalgar and of Lissa and of the war between Chile and Peru have been lost to us, and there has been no previous experience of the treatment of wounded on ships since the modern revolution in naval warfare. It is needless to say that a naval battle is a very much more formidable affair than a land fight. Apart from the fact that a ship may be suddenly sunk or destroyed, the damage effected by the explosion of shells is often wholesale and attended with fearful consequences to the ship and the gravest loss of life and injuries to those on board. In some of the naval engagements of this war the wounded could not be treated surgically because no surgeons were left alive to attend to them. We have only to turn to the illustrations in this volume showing the state of the *Matsushima* and *Higei* caused by the explosion of shells to see how this occurred. The subject is one which has a direct bearing upon the care and management of the wounded on shipboard, which is discussed by the authors. In the men-of-war of Nelson's time there was a wide hatch in the centre of the ship, extending virtually from the upper deck to the bottom and below the water-line, and this was well adapted for use as a spacious surgery. But nowadays, when the great object is to make naval vessels the most powerful, swiftest, and best possible engines of destruction of their kind afloat, the provision for the treatment and accommodation of the sick and wounded in the best and most suitable position is an infinitely more difficult matter. Ships are propelled by steam power and constructed in watertight compartments, and engine-rooms, coal-bunks, and numerous other essential provisions have to be taken into account. The sick-bay or surgery of a ship of war should be conveniently placed for collecting the wounded and for securing, as far as practicable, their safety from shell-fire—desiderata which, however obvious, must frequently be unattainable. All the arrangements for the collection and removal of the wounded and for supplying them with surgical aid on shipboard during, or directly after, a naval action require to be carefully and systematically thought out, and should be held in remembrance in drawing up and designing plans of war-vessels. It would be interesting to learn what has been attempted or done in these respects in our own navy. In future naval wars some system will have to be organised for relieving ships of their wounded after an engagement by a fleet of vessels specially designed for the purpose—to act as bearer columns now do on land in stripping a battle-field of its wounded.

The book has been translated into excellent English. Reference is made in it to, and a brief description is given of, the naval battles of Phung-do and Yalû, the attacks of the Japanese upon Tan-chow, Wei-hai-wei, the Pescadores, and those upon Keelung, Takau, and Anping; also to the bombardments of Hwa-yuan-kow, Talien Bay, Port Arthur, and Yingching Bay. This is introductory, however, to the special subject to which the report is devoted—namely, the condition of the killed and wounded in the various actions and the diseases and injuries in the Japan-China war during 1894-95. In the description of the battle of Yalû the facts concerning the *Matsushima* and some other vessels are worth reading. A brief history of the killed and wounded is followed by the statistics of injuries and the causes and classification of wounds and their complications, this section ending with a chapter on the management of the wounded. This part of the volume also includes numerous surgical and clinical details and much curious and instructive information, together with a history of several remarkable cases of injury, and are illustrated by numerous large and coloured plates. Other sections deal with diseases and injuries (exclusive of the killed and wounded in the actions during the war), sanitary conditions, and the work done in the naval hospitals. The book is a little mine of information in regard to the surgical and medical history of the naval war between Japan and China and a variety of subjects connected therewith, and it is scarcely necessary to add that much time and labour must have been bestowed on the collection

and arrangement of its material and in the compilation of the work.

A Short Practice of Midwifery, embodying the Treatment adopted in the Rotunda Hospital, Dublin. By HENRY JELLETT, B.A., M.D. Dub., F.R.C.P. Irel. Third edition, revised and enlarged, with 124 Illustrations and an Appendix containing the Statistics of the Hospital for the last 11 years. London: J. & A. Churchill. 1901. Crown 8vo. Pp. 533. Price 8*s.* 6*d.*

IN this, the third edition of this manual, Dr. Jellett has given up the unsatisfactory task of attempting to write a handbook suitable both for nurses and for students and medical practitioners. He has accordingly included a considerable amount of new material in the present edition, while he has prepared a second and shortened one for the use of nurses. New chapters have been written upon Pregnancy and its Phenomena, the Ovum, and Obstructed Delivery; while the chapters upon Obstetrical Diagnosis, on the Different Presentations, on Obstetrical Operations, on Infant Feeding, and on Infantile Diseases have been made fuller and more complete. We notice that on p. 16 Dr. Jellett gives the old familiar but utterly erroneous table of the height of the fundus uteri at the various months of pregnancy. How absurd the statement is that the fundus of the uterus is at the level of the top of the symphysis pubis at the end of the fourth month of pregnancy is shown by the fact that the fundus of the non-pregnant uterus in the anatomical position of the body, in which all such measurements must be taken, is one and a quarter inches above the upper border of the symphysis pubis. In other words, the uterus at the end of the fourth month of pregnancy is actually lower in the abdomen, if we are to believe this table, than the non-pregnant uterus. The very diagram (Fig. 6) introduced to illustrate the table shows that this is not so, while a reference to either Bayer's or Waldeyer's frozen sections of the pregnant uterus at the third and fourth months of pregnancy respectively would have shown to Dr. Jellett the worthlessness of this table. In Bayer's specimen the fundus of the uterus is at a level of 70 millimetres (2¾ inches) above the symphysis, the total length of the body of the uterus being 85 millimetres (3⅜ inches), while in Waldeyer's case the fundus uteri is 125 millimetres (five inches) above the symphysis or at a height equal to the total length of the body of the uterus in this particular specimen—that is to say, the whole of the body of the uterus is in the abdominal cavity, a fact which Pinard demonstrated years ago by clinical observations to be the case as early as the end of the third month of pregnancy and which he has frequently insisted upon since. In other respects the book has been well revised and brought up to date. The new illustrations are good and useful and we can recommend this third edition to students and medical practitioners as cordially as we have done the former ones.

Bath Waters: A Rational Account of their Nature and Use. By PRESTON KING, M.D. Cantab., Honorary Physician to the Royal Mineral Water Hospital, Bath; Honorary Assistant Physician to the Royal United Hospital, Bath. With an Historical Sketch by S. BARING GOULD, M.A. Bristol: J. W. Arrowsmith. Pp. 128.

THE object of the author of this volume is to give a short and rational account of the Bath thermal waters and also of the principal diseases which may be most successfully treated by suitable applications of these waters. Dr. King has succeeded well in his endeavours to render the volume a purely medical one. It is not easy to avoid making such a book a "medical guide"—a class of literature to which we have strong objections. Dr. King, however, steers perfectly clear of such temptations. The account of the "source and heat of the waters" is an interesting one. He quotes the researches of Mr. J. W. Morris of Bath who came to the conclusion that the mineral waters have their origin in some volcanic region to which marine sources have made contribution. The description of the bath-rooms and appliances is well carried out and the illustrations are excellent. The chapters on the Treatment of Rheumatism, Gout, and Rheumatoid Arthritis will well repay perusal and the beautifully executed illustrations add to the value of the letterpress. Dr. King draws attention to certain symptoms in rheumatoid arthritis which are apt to escape notice, such as the "fibrillar twitchings," persistent and troublesome cramps, the latter occurring chiefly at night and sometimes causing great distress. The pigmentation which so frequently manifests itself is also described and a capital reproduction of a photograph of the "butterfly" pigmentation is given. The therapeutic value of the Bath waters is fully recognised and the volume now before us forms a useful epitome of their mode of use and methods of application.

The Protozoa. By GARY N. CALKINS, Ph.D. Being Vol. VI. of the Columbia University Biological Series. New York: The Macmillan Co. 1901. Pp. xvi. + 347, with 153 figures in the text. 8vo. Price 12*s.* 6*d.* net.

THIS tall and slim volume is a natural sequel to a previous volume in the series dealing with the cell. The main objection to it is its slender size, for the quality of the book is more to be praised than the quantity. The group of the protozoa with which it deals is enormous in numbers and omnipresent. No drop of water, save that which is distilled, no speck of mud, no damp leaf, and no animal body are without some of these tiny creatures. To condense the immense mass of information that we possess respecting the "urthiere," as the Germans term these truly primitive animals, into so few pages does not appear to us to be quite adequate treatment. One result is that the author, conscientious in giving tables of classification of all the families and larger groups after the chapters dealing with each, is forced to retail name after name of protozoa which he has not even mentioned in the most casual way in the preceding letterpress. It may be freely conceded, however, that such matters as the author does lay before us are skilfully handled and amply illustrated. The reader will unquestionably derive the main outlines of a knowledge of the protozoa from a perusal of this work. It is also a work that is distinctly to be read. It is not sufficiently encyclopædic to form a work of reference; it will, however, be read with approbation. The style is easy and this ease is not acquired at the expense of depth and detail. Abundant illustrations further elucidate the text; all of these are clear and many are of really excellent execution. Some are from actual preparations made by the author, and the inclusion of such figures is legitimate on the part of a naturalist who has made a special study of the group and, moreover, tends to confirm the confidence which the reader will feel in his instructor. The bibliography is fairly full, but by no means exhaustive. We find omitted, for example, Professor Geddes's researches on the "yellow cells" of radiolarians, and Professor Minchin's observations upon gregarines. The author might also perhaps have said something about a curious form of gregarine, referred by M. Labbè to the genus monocystis, which Mr. Beddard described from the body cavity of an exotic earthworm some years since. However, as already implied, it is not possible to pack into 310 pages even the briefest mention of a host of interesting forms.

The entire correspondence between a single protozoon and a single cell of one of the higher animals is duly insisted upon by the author, a correspondence which is a comparatively new generalisation in zoology, but, curiously enough, was suggested in a dim way as long ago as in the days of

Oken. That naturalist held that the appearance of "infusorians" in water containing decaying animal or vegetable matter was due to the resolution of the animal bodies into their primordial "vesicles," and the same view was held by others at or about the same time. Of late years many and remarkable proofs of the justice of considering these minute creatures as each equivalent to a single cell have been added. Not the least remarkable of these is the occasional extrusion by protozoa of fragments apparently quite comparable with the "polar bodies" invariably extruded by the egg during its maturation. Even that mysterious and little-understood body, the "centrosome," has at length turned up in the protozoa. The earlier observers were baffled by the extreme complexity of the protozoan body as compared with any other animal or vegetable cell. A historical introduction deals with such matters, and the main problems, physiological as well as anatomical, of the group are dealt with after the systematic account of the varied forms which constitute this most ubiquitous order of creatures.

The Surgical Anatomy and Operative Surgery of the Middle Ear. By A. BROCA, Surgeon to the Trousseau Hospital, Paris, and Supernumerary Professor to the Faculty of Medicine of Paris. Translated by P. MACLEOD YEARSLEY, F.R.C.S. Eng., Surgeon to the Royal Ear Hospital. London: Rebman, Limited. 1901. Pp. 62. Price 3s. 6d.

PROFESSOR BROCA has divided his monograph into three parts—the Surgical Anatomy, the Operative Procedures, and an Atlas. The anatomical part is very thorough. It is pointed out that the supra-meatal spine is not developed from the tympanic ring, a fact which is often overlooked, but proceeds from a point known as the "epitympanal." The author passes severe strictures on those surgeons who divide the facial nerve and who expose the lateral sinus. We quite agree with him in thinking that division of the facial nerve is usually inexcusable and even culpable, but as to exposing the sinus that is entirely a matter of opinion, and Mr. Yearsley has added a footnote without due regard to the context. Professor Broca describes in detail (1) opening the antrum alone, or the so-called Schwartze operation; and (2) opening the antrum and tympanum. In the latter case incision of the external meatus at its upper and posterior part is advised, and Professor Broca still advocates non-closure of the post-auricular wound—a procedure which has gradually fallen into disrepute in England; we cannot help believing that the immediate suture gives better results. The pure Stäcke operation is described carefully and will help to fix in the mind the difference between this operation and that one which is so often called indifferently the Stäcke or radical operation. The radical operation as practised in England is Professor Broca's operation for making a mastoid-tympanic cavity, but the former is the more complete procedure. The author passes on to describe the methods of operating for intracranial lesions but is less explicit and enters less into detail than in respect to mastoid operations. The last third of the work is devoted to "The Atlas," the value of which would have been much enhanced had more attention been paid to the explanations of the plates; we also think that a short index would have been an advantage. Mr. Yearsley has attempted to adhere rigidly to the author's text and in consequence the language is somewhat obscure at times.

LIBRARY TABLE.

De l'Obésité. By Dr. GABRIEL LEVEN. Paris: G. Steinheil. 1901. Pp. 130.—This little *brochure* on the etiology and pathogenesis of obesity will well repay those who take the trouble to read a scientific article of this kind in a foreign language. We would particularly commend Dr. Gabriel Leven's work to those writers—and there are many of them—who venture into print on the subject of obesity. It is chiefly owing to the writings and work of Bouchard that we possess any pathology at all on the vexed question of abnormal depositions of fat in the human subject, and it is owing to the teaching of this great *savant* that his pupil, Dr. Gabriel Leven, is in a position to publish the learned and philosophic treatise which is now before us. The author holds definite views on the subject of which he treats and he has made some very valuable investigations of a clinical, as well as of a laboratory, character, to support the hypothesis which he expounds. Briefly stated, the main contentions of Dr. Gabriel Leven may be summarised as follows. Obesity is a morbid symptom and not a disease entity; it is, in fact, the outward expression of a general disturbance of nutrition. Since nutrition is dependent on the energy liberated by the nervous system it is logical to assume that a disturbance of nutrition may be referred to a disturbance of nerve function. Clinical evidence is strongly in favour of this view in the cases both of localised and of generalised lipomatosis. Depositions of fat and fatty degenerations not infrequently occur as the direct result of local nerve lesion and general nervous disorders. As regards the etiology the author has collated a considerable mass of clinical evidence that dyspeptic symptoms almost invariably accompany the pathological deposition of fat. For our part, however, we cannot admit that he has established his claim that dyspepsia and obesity stand in the relationship of cause and effect; they may equally justly constitute pathological expressions of the same symptom-complex. A record of very carefully conducted experiments appears to prove, however, that in the case of obesity uncomplicated with renal, cardiac, or hepatic lesions, the urinary coefficients are the same as in normal conditions. That obesity can occur independently of dietetic causes and of changes in the urinary coefficients is certainly a very strong argument in support of the nervous origin of this condition, at least in a very large number of cases. Intelligent and intelligible as are the arguments brought forward by the author to establish his views, we cannot help thinking that had he more carefully differentiated between the etiology and the pathogenesis he would have gained a larger following of adherents. There is something confusing in the idea that obesity is due to nerve disturbance and yet generally caused by dyspepsia. The causes of dyspepsia, according to a common-sense view, may be the same as those of obesity—namely, nervous exhaustion due to over-action of the nerve-centres which control nutrition. It is hardly possible to conceive that anything can be so effective in the determination of this condition as the prolonged intake of an excessive dietary. As we have already mentioned, Dr. Gabriel Leven's little book should be read by all who take an interest in the subject of obesity, as it reflects accurately the teaching of the Bouchard school and is not without many valuable and original suggestions.

Pneumonia: Clinical Section. By Sir J. W. MOORE, M.D. Dub. Reprinted from Vol. IX. of the "Encyclopædia Medica." Pp. 39.—As indicated by the title this pamphlet is a reprint from the "Encyclopædia Medica" of Sir J. W. Moore's article on Pneumonia considered purely from a clinical point of view. In accordance with modern views he considers pneumonia to be a specific general infection of bacterial origin analogous to the other infective or so-called "zymotic" diseases. A good account is given of the symptomatology of the disease, especial stress being laid on the atypical peculiarities which occur at the extremes of life. In dealing with the diagnosis attention is drawn to the value of the myotatic irritability of the pectoral muscles as an early sign. Some observers (notably Dr. Kennan) claim for this sign that it

may precede the earliest inspiratory crepitations of pneumonia. The treatment of the disease is generally well described, but the majority of physicians will scarcely agree with Sir J. Moore's statement, "Many—probably most—pneumonic patients are better without stimulants." We are certainly of opinion that in the majority of cases of pneumonia stimulants are required and that alcohol is one of the most valuable drugs that can be employed in the treatment of this affection.

Blackpool as a Health Resort. By THOMAS CARR, M.D. Durh. Manchester: Abel Heywood and Son. 1901. Pp. 78. 1s.—The history of Blackpool is uninteresting. Much of the information given by Dr. Carr is taken from such obvious sources as the annual reports of the medical officer of health, while an elementary essay on climatology is padding, although the author suggests that the general principles of climatology are discussed so that we may understand the climate of Blackpool in particular. The vital statistics of Blackpool are dealt with in a few lines, Dr. Carr stating that "the practical conclusion that those of us who have studied these conditions (i.e., age, sex, and occupation of the residents) have come to is that scores of people who would either be chronic invalids or have died under less favourable surroundings are living yet at Blackpool." What sort of value is Dr. Carr's pronouncement, backed by unnamed authorities and supported by no figures? In a chapter headed "Cases Specially Benefitted (*sic*) by Residence at Blackpool" it is claimed that residence in the Lancashire town will improve sufferers from (1) nervous diseases; (2) chest complaints; (3) troubles associated with the digestive organs; and (4) constitutional maladies. This is a large order. The last chapter contains notes on the Hôtel Métropole and other hydropathic and boarding-establishments, the names of the proprietors or managers being in several instances mentioned in an obliging manner. We are not favourably impressed with this *brochure*, for we cannot conceive that it will be of any use to anyone except to Dr. Carr, who places under his name on the title page 13 lines describing his past and present professional positions.

JOURNALS AND MAGAZINES.

The Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S.; D. J. CUNNINGHAM, M.D., F.R.S.; G. S. HUNTINGTON, M.D.; A. MACALISTER, M.D., F.R.S.; and J. G. M'KENDRICK, M.D., F.R.S. Vol. XXXVI. New series. Vol. XVI., Part 2. January, 1902. With Plates and Figures in the Text. London: Charles Griffin and Co., Limited. Pp. 50. Price 6s.—The articles contained in this part are the following: 1. The Relation of Structure and Function as Illustrated by the Form of the Lowest Epiphyseal Suture of the Femur, by Arthur Thomson, M.B. Edin., Professor of Human Anatomy, Oxford University. The conclusion arrived at by Professor Thomson from an examination of the specimens at his disposal is, that structure in this instance is determined by function. 2. The Form and Form Relations of the Human Cerebral Ventricular Cavity, by J. O. Wakelin Barratt, M.D. Lond. The determination of the form of the ventricular cavities of the brain is shown in this paper to be more difficult than might at first sight appear and to require much attention to details. Many illustrations are given and the result of the method pursued seems to be very satisfactory. 3. The Peritoneum of the Pelvic Cavity, by A. Francis Dixon, M.B. Dub., Professor of Anatomy, University College, Cardiff, and Ambrose Birmingham, M.D. R.U.I., Professor of Anatomy, Catholic University, Dublin, with three plates. The description is clear and the plates are well executed. 4. Salmo Salar, the Digestive Tract in Kelts, by J. Kingston Barton, M.R.C.P. Lond., with two plates. This paper contains an account of the contents of the alimentary canal in a healthy kelt taken from the Hampshire Avon and of the histological characters of the intestinal walls. Many fat droplets were found in the lacteal system. 5. Some Observations on the Origin and Nature of the So-called Hydatids of Morgagni found in Men and Women, with especial reference to the fate of the Müllerian Duct in the Epididymis, by John H. Watson, M.R.C.S. Eng., assistant demonstrator of anatomy, London Hospital. This is an excellent article in which the nature of the "sessile" hydatid and of the "pedunculated" hydatid is well worked out, the former being shown to be of Müllerian origin and the latter the true hydatid of Morgagni which usually springs from the anterior layer of the salpinx, occasionally from the fimbriated extremity of the Fallopian tube, and which can invariably be traced to the parovarium through the broad ligament. This pedunculated cyst is the homologue of the stalked hydatid attached to the epididymis of the male, both being derivatives of either the mesonephros or the anterior end of the Wolffian duct. The cyst occurring at the base of the fimbria ovarica is of doubtful origin, and is possibly a distended mucous gland or a cyst of the tubo-parovarian duct. 6. Hyoid Apparatus in Man in which a separate Epi-hyal Bone was Developed, by Professor Sir William Turner. 7. The last article is by Walter H. Gaskell, M.D. Cantab., LL.D., F.R.S., on the Origin of Vertebrates, deduced from the Study of Ammocœtes, dealing particularly with the origin of the eighth cranial nerve.

New Inventions.

BILLROTH'S WATERPROOF CAMBRIC.

WE have received from Messrs. L. Paechtner and Co., of 40, Queen-street, Cheapside, a sample piece of a new waterproof material, called Billroth's waterproof cambric. It is said to be extensively used on the continent for purposes where a material is required which is impervious to water. Thus it can be employed to cover fomentations, or in place of mackintosh sheets for use in operations, and for aprons for surgeons and nurses. We have examined the sample sent to us; it is a yellowish material, apparently prepared by some method similar to that by which "oil-silk" is made. We find that it is quite impervious to water, even after prolonged boiling; we may therefore conclude that the makers' claim that this material may be sterilised is well founded. This is a great advantage as ordinary mackintosh sheets cannot obviously stand sterilisation by heat. It is thin and somewhat translucent in appearance, but it seems to be strong. We consider that it is likely to prove of service in many uses for which rubber-covered materials are now employed. We understand that the wholesale price is approximately at the rate of 1s. a square yard; it is therefore considerably cheaper than mackintosh sheeting.

IMPROVED VACCINATION SHIELD.

EXPERIENCE has shown the general practitioner that while some sort of protection should be afforded to vaccination vesicles the less they are interfered with by anything coming in actual contact with them the better, unless, perhaps, a discharging stage should require attention. And for all practical purposes the less cumbersome a vesicle-guard is the better. I have devised one which has been made for me by Messrs. Arnold and Sons of West Smithfield, London, E.C., that seems to me to be as effectual as it is simple. It is made of aluminium and is fixed to the skin by means of oblong pieces of sticking plaster placed over the broadened end of it. Being fixed parallel to the long axis of the arm it meets with hardly any pressure or friction from clothing when applied. One or two turns of a bandage may complete adjustment if desirable. One of the greatest advantages of this form of guard is that the vesicles can always be seen, and treated when discharging, without removing the guard. If it is placed in position after the operation has been performed the wound is kept from being irritated, and if the first

operation has not been successful a second can be performed without removing the guard. The freest ventilation being allowed, the vesicles are permitted to come and go under

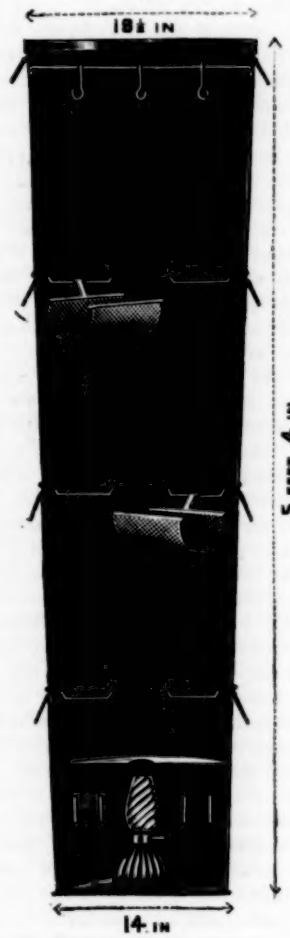
the most favourable and natural conditions, not being pressed upon or heated or sweated as they would be when smothered in cotton wool or kept under comparatively air-tight appliances.

London. HAYDN BROWN, L.R.C.P., L.R.C.S. Edin.

A PORTABLE DISINFECTOR FOR PRIVATE AND HOSPITAL USE.

THIS apparatus, which is made of strong tin and built up in four sections (which fit inside one another for

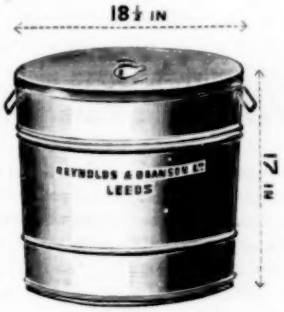
FIG. 1.



Apparatus pen—in section.

portability—see Fig. 2), is intended for disinfecting clothes, gloves, &c., after exposure to infection, and I am finding it so useful in my practice that I thought it would interest and be of similar use to others. Formalin is the disinfectant and the disinfection is carried out with little or no trouble and with no nuisance, for it can be used in a closed-up room without smell or perceptible change in the atmosphere of the room and without injury to clothes or furniture. We all know the obvious disadvantage of sending clothes to be disinfected at a public disinfecting place.

FIG. 2



Apparatus closed.

The apparatus is intended to overcome this objection and will be found specially useful to medical men and nurses.

Directions for use.—1. Fix up the sections as shown in Fig. 1. 2. Hang up the clothes on the hooks of the rod. 3. Place smaller articles, such as gloves, &c., in the moveable racks as shown in the illustration. 4. Light the lamp and drop three formalin tablets into the receiver and slide the lamp into position (see Fig. 1).

The apparatus was skilfully made for me by Messrs. Reynolds and Branson, Limited, Leeds.

HERBERT J. ROBSON, M.R.C.S. Eng., L.R.C.P. Edin.

Leeds.

PINE FIBRE FOR MATTRESSES, ETC.

FEATHER-BEDS are familiarly associated with the idea of luxury, but it has now for some years been recognised that mattresses stuffed with fibrous materials are equally comfortable and more wholesome. Horsehair has a well-established reputation as perhaps the best of these substances, and although it has competitors it is not likely to be superseded. Another stuffing for mattresses, which is novel in this country, but is said to have been well tested in America, has been submitted to us by a firm of bedding manufacturers trading as Davis's Feather Mills, Limited, 61, 62, and 63, High-street, Whitechapel, London, E. It is prepared from the long tufted foliage of the *Pinus australis*, the Georgia pitch-pine, or yellow pine of the southern portion of the United States. The finished product to which the name of pine fibre has been given consists of tough, interlacing, flexible fibres, rather stouter than horsehair, curling naturally and averaging from six to eight inches in length and upwards. When in quantity it forms an open, porous mass, freely permeable to air, elastic, soft, and springy to the touch, and to all appearance admirably fitted for use as a stuffing for mattresses or cushions. It is of a dark-brown, somewhat glossy colour, possesses a slight odour somewhat resembling that of fresh pine-wood sawdust, and by reason of its vegetable origin will no doubt be free from any tendency to attract moths which are so destructive to hair or wool stuffings. The makers state that the fibres do not break up or become lumpy, and that mattresses filled with this material have been in use for many years without sensible deterioration. The fibre may be obtained either made up into mattresses, bolsters, or pillows, or in bales averaging about 2 cwt. each.

WESTERN DISPENSARY, BATH.—The annual meeting of the subscribers to this institution was held on Jan. 24th, under the presidency of the mayor (Mr. E. E. Phillips, M.R.C.S. Eng., L.R.C.P. Edin., J.P.). The financial statement was satisfactory and showed a favourable balance of £55. The medical report stated that during 1901 there had been 876 cases treated and 434 patients had been attended at their own homes.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 1, 1902.

The Edinburgh Scheme for a Psychiatric Clinique.

SCOTLAND is always to the fore in lunacy matters, and the scheme proposed by Sir JOHN SIBBALD and supported by the chief physicians of Edinburgh for promoting the treatment of early mental disease in the wards of the Royal Infirmary is not only excellent in itself but is worthy of the most careful consideration at other hospital centres. The conception is not entirely new in some of its essentials, but the Edinburgh proposal points to more complete developments than have hitherto been entertained. It proposes to apply general hospital treatment to those early cases of mental disorder where the patient cannot as yet be certified as insane, generally known as "borderland cases," but it is also to include acute insanity of a temporary nature. Of the value of treating the borderland cases in the proposed way there can be no question, but the difficulty is to get patients in this stage to offer themselves for treatment, partly because they do not always themselves recognise the condition in which they are, and partly because their friends do not know the importance of the premonitory symptoms. The friends are therefore unwilling to interfere with the occupation of the bread-winner who is only, as they think, suffering from some trifling affection which will soon remedy itself.

The greatest difficulty is with the second class of persons—viz., those afflicted with acute insanity of a temporary nature. It is hard to say when acute insanity is of a "temporary" nature, and this is just the class where a mistake may be made by not removing the patient at once to an asylum where he can have the special care and opportunity for outdoor treatment that few hospitals can give. Is there not a little tendency nowadays to let sentiment outrun discretion? It is quite true that, rightly or wrongly, the public does view with dislike and distrust the placing of persons in special institutions under certificates, putting the "stigma of insanity" upon them, as it is termed; but this feeling may be carried too far in the interests both of the patients and of the public, and unless the arrangements of a general hospital are more complete and elastic than is possible at most of them it will scarcely be found possible to treat acute insanity with due regard to the other inmates. It so happens that much of the acute insanity in Scotland is of the depressed or melancholic form, a kind especially suited for general hospital treatment, and if the hospitals are in touch with the asylum authorities there ought not to be any difficulty in transferring with ease and rapidity any turbulent or unsuitable cases that arise. At St. Thomas's Hospital, London, there has been for some time an out-patient department for the treatment of early mental symptoms, and the experiment, we are told, has been very successful; but let it be remembered that in bygone days insane patients were actually treated in the wards of at least one of the London hospitals, and that eventually the plan was given up as unsatisfactory. As to the value for students and for post-graduate classes of a clinique of psychiatry at a general hospital there can be no doubt. It is just in the early stages of mental aberration that the changes occur in conduct and disposition which lead to misunderstandings in families and subsequently to serious physical and moral developments, all of which might be capable of explanation and removal if the real nature of their existence was understood. There is scarcely any form of disease in which nervous symptoms of one kind or another are not present. The association between neuroses and bodily states is a matter in which the student has been until lately uninstructed, but hospital physicians are now beginning to recognise the importance of the matter, as a proof of which we may mention the papers on nervous disorders now frequently read at strictly psychological associations by general physicians.

A review of the prevailing practice of dealing with private insane patients points to this very striking fact that the owners of private asylums are complaining of the increasing tendency to place patients in homes or in the care of general practitioners; and there is no doubt that cases of early alienation are sent for advice to the "neurologists," and that those engaged in consulting lunacy practice rarely see people unless it has become a necessity for certification. The trend of public opinion appears thus to be confirmatory of the action of the Edinburgh physicians. If a complete development of this hospital system of early treatment becomes an accomplished fact it may have a real effect upon that burning question, in London at least, of future lunacy accommodation, for in London we appear to be running to the extreme of building beyond the necessities of the situation. It is certain that, however great the accommodation may be, there will always be found candidates to occupy it, and it is, perhaps, better to be under-supplied with lunacy accommodation than to have room always forthcoming on demand. Practical experience has established beyond question the fact that when room cannot be got it oftens turns out that it is not wanted. To apply directly to London the Edinburgh innovation is not possible because of the overcrowded state of our hospitals and because of the difficulty of securing the concerted action that is possible in a city of smaller dimensions. Probably the best arrangement would be that each lecturer on mental disease—and there is already one attached to each medical school—should be appointed as physician to an out-patient department, to which all cases of early mental impairment would be referred. He would then either attend to them at his regular visits or, if necessary, advise their reception into a special hospital, for it would not be possible in London to keep a separate system of wards in the general hospitals for these cases. More than this does not at present seem feasible. Of course, this is carrying out only a part of the Edinburgh programme, and it is nothing more than an extension to all the hospitals of what is already done at St. Thomas's Hospital.

At the National Hospital for the Paralysed and Epileptic many borderland cases attend as out-patients, but by the

rules of the hospital they cannot be admitted inside the wards, and so they are either relieved as far as possible or are sent to the authorities who certify them for asylums. In most out-patient departments cases of this sort at times present themselves, and if the London hospitals possessed such an annexe to their work these patients could be drafted to the psychiatry department. It is under the consideration of the London County Council to procure authority for the erection of "reception houses" for early cases of mental disease. The "reception houses" will be in the nature of hospitals where such patients may be kept until it is seen whether they are likely to recover in a short time or whether it is advisable to have them placed under certificates and sent to an asylum. To our mind, these "reception houses" form the solution of the difficulty, and we advise the authorities in Scotland to consider this plan before finally determining to use the general wards of the infirmary for acute cases of temporary insanity, or even borderland cases. The system of "reception houses" seems an ideal one, for it does away at once with the slur on the patient of having been in an asylum and it brings the general hospitals into direct *rapport* with the means of treating the cases which cannot with advantage be left at home. It was the expense and the moral cruelty of sending to an asylum these early cases which only required a few days' care that led to the suggestion of receiving houses, which, perhaps would better be termed "hospitals," the words "asylum" and "certificate" being reserved for other cases. To proceed with the erection of these reception houses it is, we believe, necessary to have some legislation, and we sincerely hope that if it is necessary a new Bill drafted in a very liberal spirit will soon be brought forward and carried through. When these new buildings are erected it is eminently desirable that they should be conducted upon the most advanced medical lines, with a due regard to the object of using them as places for clinical study and research. To carry out this object there should be a complete visiting medical staff, and no obstacle should be allowed to stand between the intimate relation of the institutions to the general hospitals which would act as feeders to them, while greatly relieving the strain on their resources. For general hospitals would then be spared having to treat cases of delirium tremens or early alcoholic insanity, to say nothing of other cases which at present cause much noise and inconvenience. If the sites of the proposed houses are well chosen the alliance with the hospitals should be complete, and the system of treatment of acute mental disease generally will in London be placed on a very satisfactory footing.

It is noticeable that in Scotland the scheme of the hospital treatment of acute mental disturbance was brought forward by a former Commissioner in Lunacy. It has not hitherto been the custom in this country for the Commissioners in Lunacy to pose as pioneers in the direction of lunacy reform their functions being apparently to see that the law as already expressed is carried out properly; but surely this is a matter in which we may fairly hope for some initiative from so experienced a body as the Lunacy Commission. In many particulars, such, for example, as the choice of site or form of asylum, public bodies are left to flounder without any aid from those who have the real opportunities of seeing all that is best and worst in the country. It is to be hoped that the influence and authority of the Commissioners in Lunacy may be brought privately to bear, if it is not thought advisable for them to act openly, in evolving a scheme which will allay the apprehensions of the public. It is necessary to bring mental diseases into line with other general diseases, whilst at the same time providing an opportunity for clinical teaching on the subject, the absence of which to-day is rather a cause of reproach. The eyes of the medical world are at present upon what is being done in London towards attaining to the best form of treatin mental disease, and we have already had occasion to point out some improvements which have been recently effected and which have been copied. The establishment of a system of combined treatment of mental and general diseases would most probably soon have imitators in the large provincial centres where the whole subject of the treatment of mental disease is also a very pressing one.

What is Proper Isolation Accommodation?

WITH the prevalence of small-pox the question of what is proper isolation may at any moment present itself in a somewhat inconvenient fashion, and hence it may be useful to discuss some of the phases that the problem is not unlikely to assume. Fortunately the case of WARWICK *v.* GRAHAM, to which we referred last week (p. 241), has established the proposition that although a person suffering from a dangerous infectious disorder may have proper lodging and accommodation in so far as he himself is concerned he is, nevertheless, "without proper lodging and accommodation" within the meaning of Section 124 of the Public Health Act, 1875, and Section 66 of the Public Health (London) Act, 1891, in the event of his being a danger to his fellow creatures. The question therefore resolves itself largely into a matter of opinion on the part of the medical officer of health, and what may be feasible in the case of one disease is impracticable in the case of another. In a problem of this nature mathematical precision cannot be arrived at and due regard must therefore be paid to the relativity of the situation. In deciding what attitude he shall adopt in any specific instance, the degree of infectivity and the fatality-rate of the disease with which he has to deal must largely govern the actions of the medical officer of health. It might obviously be contended by an extremist that nothing short of isolation in hospital would meet the requirements, but such an extremist would find it difficult to establish the position that even isolation of this character was absolute. There are few, however, who would reduce things to such an absurdity, and the medical officer of health will be found as a rule to take a reasonable view.

Assuming, for instance, enteric fever to be in question the prevailing opinion would probably be that in the homes of the poor, where the patient cannot be accorded the sole tenancy of an apartment, and where detailed supervision as regards nursing is impracticable, the necessities of the situation demand the patient's removal to hospital. If, however, skilled nursing can be afforded and the patient

can be kept apart from the other inmates of the dwelling, few discreet medical officers of health would care to force the situation to a legal decision unless a member of the household were concerned in the distribution of some article of food-supply such as milk. In a case of scarlet fever very similar arguments would have weight, but the presence of children at school ages, as also the carrying on of a business such as that of a dairy, would at once render home treatment unsafe, and it would always be wise in the case of scarlet fever to set apart two rooms for the use of the patient and the attendant. In short, the occupation and age-distribution of the invaded household must to a very material extent govern the decision to be arrived at. In dealing with small-pox we are face to face with a disease which possesses not only a very high degree of infectivity but also a fatality-rate of somewhat alarming proportions. Moreover, the disease, even when it does not kill, is liable to lead to serious disfigurement, and hence it is shunned in a manner which is certainly unique among our more or less endemic diseases. Small-pox, too, is perhaps the best type which we possess of what may be called air-borne diseases, and it possesses an attacking power not found in the case of any other infectious malady. Aerial convection is doubtless operative in some degree in several communicable diseases, but the evidence with respect to the resistance and viability of the small-pox virus is such as to place it almost in a class by itself. For these reasons the removal of all cases of small-pox to an isolation hospital specially set apart for the segregation of that disease is eminently desirable, and there are very few instances, more particularly under urban conditions, where the medical officer of health would care to accept the responsibility of allowing a patient with this disease to remain at home. Still, it would be altogether straining the position to assume that a case of small-pox must of necessity be removed in every instance. In a detached house where, perhaps, a whole floor or even a wing of the building could be devoted to the patient and his attendant, where money was practically no object, and where the householder was prepared to carry out all the suggestions of the medical attendant and the medical officer of health, it would, it seems to us, be unwise in the best interests of the public health service to *insist* upon the removal of such a patient to a general small-pox hospital. In the case of the modern blocks of buildings known as "flats," where there is often direct aerial communication between one suite and another, either by means of the staircase, the lifts, or the dust-shoot, it would appear to be very questionable if the patient could be regarded as having proper accommodation within the meaning of the Public Health Acts

It is, of course, much to be regretted that every town is not as well provided with hospital accommodation as is the case in the metropolis, where both public and private accommodation is available. If the medical officer of health can tell the relatives of the patient that a special ward will be provided he is, under certain conditions, in a far stronger position to insist upon removal than would be the case were he aware that the patient must be housed in the general ward with people occupying a much lower social and educational plane. Fortunately the educated classes are now learning to get themselves revaccinated at intervals, more particularly when small-pox threatens to prevail, and the more this custom obtains the less likely to arise are the difficulties as to isolation to which we have here drawn attention.

The National Hospital for the Paralysed and Epileptic.

THE medical staff of the National Hospital for the Paralysed and Epileptic are to be congratulated by the whole medical profession, and by all who are interested in the welfare of the hospital, on the happy result of their long and arduous struggle. This struggle, as our readers may remember, owed its commencement to the repeated refusal of the Board of Management of the hospital to allow the staff a very modest representation on that Board. The staff, despairing of redress from the Board, finally addressed themselves to the governors and brought forward instances of bad management and of defects in the diet and nursing of patients which ought never to have occurred in any well-ordered institution. They appealed to the governors to institute a thorough and searching inquiry into these matters and also into the whole management and constitution of the charity. It is needless to recapitulate the various devices to which the Board resorted in its attempts to evade such a demand. Fortunately, after much time had been consumed in fruitless negotiations and prolonged newspaper controversy, the governors took the matter up energetically and appointed some of their own number to choose a committee consisting of legal, medical, and business men, to investigate the charges brought forward by the staff. This committee was appointed both to inquire into the general constitution of the hospital and into the position and acts of the secretary-director—an official created by the Board apparently to act as its delegate and one of whose functions seems to have been to keep the Board and the staff from directly communicating one with the other. This committee was presided over by Sir EDWARD FRY, and it recommended, amongst other things, that the staff should have the representation on the Board for which they had so long contended, and that the office of secretary-director should be abolished. Incidentally the report of the committee showed considerable remissness on the part of the Board in carrying out the duties entrusted to it by the rules, and that body did not escape censure for the approval and support which it had furnished to the secretary-director in his autocratic dealings with the medical staff.

The immediate result of this report was that the secretary-director resigned his office. It was a matter for surprise to many people who had read the report that the Board did not follow his good and proper example. At the meeting of governors called to receive the report a committee containing representatives of the Board, the medical staff, and the governors, was appointed to frame a body of rules giving effect to the recommendations of Sir EDWARD FRY'S committee. These rules were next submitted for adoption to a meeting of governors. An adverse proposal was made by a member of the Board, who attempted to get the four other votes necessary to take a ballot of the whole body of governors, but the attempt failed and the rules

were adopted with only verbal alterations. These rules necessitated an election of a Board at an early subsequent meeting. This election was held on Jan. 9th and the two medical representatives having been already chosen by the staff 10 vacancies remained to be filled up. For these vacancies 10 names were proposed, and two members of the old Board sought re-election. On a show of hands the latter were rejected, but a ballot was demanded on their behalf and the result of this ballot was declared at the meeting held on Jan. 23rd. It need only be said that the result of the ballot confirmed the vote of the previous meeting, the governors clearly indicating their determination no longer to utilise the services of any of the old Board of Management who had in their opinion endangered the very existence of the charity.

The hospital may now be regarded as "swept and garnished." It cannot be denied that much hard and energetic work lies before the new Board. In this it will be cordially and loyally assisted by the medical staff and, we doubt not, by the general body of governors. Everyone interested in the hospital must now feel that at last it is established on a broad basis, which will give it strength and stability and will enable it to extend its already large sphere of usefulness, not only in the cure and relief of suffering, but also in the acquisition and dissemination of medical knowledge.

Professor Virchow's Message.

THE current number of *Virchow's Archiv*—the first part of the 167th volume—opens with an article by its venerable editor which cannot fail to awaken sympathetic interest at the present time when he is lying on a bed of sickness. It is addressed to "my friends" and is intended to convey to them collectively, since it was impossible to do so individually, his thanks for the share which they took in celebrating his eightieth birthday on Oct. 13th, 1901. He chose for this purpose "this old *Archiv* which for more than 50 years has been the medium for our mutual explanations." He says that his scruples against any such celebration were over-borne by his friends, so that he had to submit passively to their plans "like a patient in the hands of his physician," and he mentions with gratitude the kind services rendered to secure the success of the *fête* by Professor WALDEYER and Professor POSNER. The celebration took place—delegates and addresses flowed in; of telegrams alone he received 800; messages and gifts came from all parts of the world, especially from bodies concerned in subjects in which this many-sided man had interested himself, not only medicine and natural science, but also anthropology, archæology, literature, philosophy, and social science. He recalls how the sphere of his activities was first widened when in 1848 he was directed to investigate the causes of an outbreak of famine fever in Upper Silesia. He found that social imperfections were at the root of such evils, and he determined henceforth to press for reforms in this direction. Like experiences followed his acquaintance with similar outbreaks in Bavaria and Prussia, and he adds that it was in his wards at the Charité that his assistant OBERMEIER made his fruitful discovery of the spirillum of famine fever. These and other epidemic plagues convinced him that practical medicine was intimately bound up with social legislation and he preached this doctrine in the pages of *Medicinische Reform* in 1848-49. Since then, he says, hygiene has become a public duty and for a physician to be also a politician is no longer a reproach. Even yet he thinks the value of medicine in matters of the common weal is not fully recognised. He goes on to speak of his early inquiries into mortality from phthisis at Würzburg which set him on to prolonged study of the nature of tuberculosis and its relationship to phthisis. He described *Perlsucht* (bovine tuberculosis) and pointed out its differences from human tuberculosis, and although his descriptions did not prevent that affection from being termed tuberculosis and even regarded as a prime source of the human disease, yet in these latter days the question of their non-identity has been raised by Professor KOCH himself. Professor VIRCHOW rather caustically adds that this ought to be taken as a warning not to confound causes of disease with their nature (*Wesen*) by neglecting pathological anatomy.

He then alludes to the great sanitary advances which he has seen, and refers with manifest pride to the fact that as town councillor of Berlin for well-nigh 50 years he has shared in the task of improving the dwellings of that city and of converting it into one of the cleanest and most beautiful as well as the most healthy of great towns. This has only been done at vast expenditure, but the cost has been repaid in gain of health and life. He refers to other directions in which science has contributed to the public health and cites the regulation of the supply and inspection of meat, recalling the opposition which had to be overcome when such measures were set on foot, as, for instance, in the prevention of trichinosis, remarking that it came from those who with but half knowledge think that they can set aside the results of expert investigation. This mention of his connexion with the municipal life of Berlin seems to recall to him other civic recognition that he has received. Bologna, the oldest university town of Italy, like Berlin, has enrolled him on the list of its honorary citizens, whilst streets have been called after him in Nuremberg and Würzburg, and he mentions with great satisfaction that the new hospital in Berlin has received his name. Nor was his birthday forgotten by the inhabitants of the village of Virchow in Lower Pomerania, who sent an address mindful of the visit he had paid many years ago to show his sons this place. This personal recognition by communities has given him great pleasure, for they came unsought and without any other end to serve than personal homage. He goes on to sketch briefly the special addresses and other marks of esteem for his scientific labours which the occasion of his birthday brought him. It is not possible to give them all here, and besides in the article itself he is only able to deal with them very summarily. There was a collective gift from the scientific and medical societies of Austria—a casket containing 80 special addresses. The presentation was made by Professor TOLDT, and it will be a precious remembrance. There was also a collective address of Australian physicians, perhaps the first occasion in which a whole continent had united to send its greeting and testify to its common interest in general science. From Switzerland came an oil painting of the Walensee, a precious memento

of days spent by its shores and of work he did there in anthropology. Addresses also came from Zürich, Basel, and Berne. England, Scotland, and Ireland sent delegates and addresses, with Lord LISTER at the head of the first. From Italy came BACCELLI with a gift from his Government and the diploma of doctor from the medical faculty of Rome. Scandinavia, Finland, France, Belgium, Holland, and Russia were all represented, and he specially refers to Japan, whence many pupils have come to him and whence, he trusts, the methods of modern science will spread over the Far East. Then he speaks of Germany and tells how gifts and honours were showered upon him from the KAISER downwards. For all these exceptional honours he can, he says, do nothing else than repeat his heartfelt thanks. He is too old to promise any new performances worthy to be regarded as a return for such gifts; but he goes on to say, "I shall not weary of work so long as my strength shall last." He cannot expect to do more than bring to a fitting close labours commenced in his earlier years. The wonderful reception he had seems to have touched him deeply, and he relates how all the people seemed to share in it. For, he says, "when on returning home quite late from one of the *fêtes* I found my little street illuminated throughout," and he had to pass through ranks of children whose welcome followed him to his door; and daily as he passed along the street children would greet him with outstretched hands and a "Good day, Herr VIRCHOW." It is characteristic of the man and his wide sympathies that he should reckon as the most striking event of those stirring days the reception given to him by the Mechanics' Union which he himself had founded and in the work of which the late Emperor (then Crown Prince) FREDERICK and his gracious consort were deeply and personally interested. This body has given rise to numerous similar associations in all parts of Germany, and although many of these have been destroyed by the spread of Socialism the Berlin organisation remains. At the banquet which the members of the union gave him he says "the old songs were sung, once more I made them a speech, and hands were stretched out to me just like those of the children of the Schelling-strasse. It was the expression of the people's gratitude, and therefore I may say to everyone, Trust the people and work for them and you will not fail of reward, although the breaking up of many systems, the disappearance of many men, the complete transformation of public life, bring home to us the thought of our own evanescence. That is my confession of faith, and with this I hope to be guided so long as I live."

We have summarised this message which Professor VIRCHOW has sent forth to his friends in all parts of the world in order that we may gather therefrom the inspiration which has been his leading principle throughout life. He has shown how devotion to science in many fields is not incompatible with taking a prominent part in the practical life of the community and the promulgation of ideas for the bettering of mankind. He has never wearied of well-doing, and the multifariousness of his interests, as well as the singular simplicity of his aims, have made him to-day the most striking figure of his time. If the article we have dealt with may seem tinged with egotism, it is, we may be sure, not the conscious egotism of vanity, but that which springs naturally to the front when, surveying the experiences of a long and busy life, a man tells his friends of the part he has played in history. That the life of one who has accomplished so much in his day, and who deserves all the honours that have been bestowed upon him, may be prolonged to see the fulfilment of his projects is the fervent hope of all who have learnt to know and to appreciate his labours.

Annotations.

"Ne quid nimis."

THE ETIOLOGY AND TREATMENT OF CANCER.

IN the present number of THE LANCET we publish a case of cancer of the uterus treated by Professor Albert Adamkiewicz by injections of cancroin in which there occurred marked retrogression of the disease and a great improvement in the condition of the patient. Professor Adamkiewicz holds the view that cancer is the result of the action of parasites and he thinks that the poison produced by the growth of these bodies should be of value in arresting the progress of the disease. For this purpose, as the result of investigations carried out upon the poisonous products, he injects a substance which he terms "cancroin." This body appears to be chemically equivalent to neurin—that is to say, it is trimethyl-vinyl-ammonium-hydroxide. Professor Adamkiewicz uses a 25 per cent. solution neutralised with citric acid, saturated with phenol, and mixed with twice its quantity of water. His original observations and experiments were published as far back as 1893. It is curious, if the method is capable of giving such good results, that it appears to have been employed in so few cases by other surgeons and that we have heard comparatively little about it during the last eight years. For these reasons, although the present recorded case is undoubtedly a striking one, yet we are inclined to be a little sceptical as to the results to be obtained by a more extended use of this remedy. In THE LANCET of Jan. 11th (p. 126) our Paris Correspondent called attention to the paper submitted by Dr. Doyen to the French Academy of Medicine. Dr. Doyen announced the constant presence of a new microbe in cancerous tumours, a microbe which he had been able to isolate and to cultivate. It occurs in the form of motile diplococci which can be cultivated in tubes of gelatin and gelose with the addition of a special bouillon. The organism appears to be more easily found in the affected glands and secondary growths than in the primary tumour, and has been found in the blood itself. The ease with which cultivation can be obtained appears to vary directly with the malignancy of the growth. Subcutaneous injections of the toxin of this microbe attenuated in some special manner brings about, especially in the glands, a reaction similar to that produced in tuberculous glands by the injection of Koch's tuberculin. Post-operative injections of the toxin appear to have given good results which have endured for six months, but further observations are necessary upon this and other points. It will be interesting to hear whether the toxin of Dr. Doyen had any relationship to the "cancroin" of Professor Adamkiewicz. The view that cancer is primarily a disease of the epithelium is gradually gaining ground, but, so far, the weight of evidence has appeared to be against the parasitic theory. It is possible that a considerable gain to our knowledge may result from the work of the commission which the German Government has appointed to consider the whole question. A very graceful compliment has been paid to British workers and pathologists by the appointment

of Mr. H. G. Plimmer to serve as a member of this commission. Quite recently a movement has been set on foot in this country to raise a sum of money sufficient when invested for the interest to pay the expenses of an investigation into the whole question of cancer. The scheme has received the approval of the Royal College of Surgeons of England and of the Royal College of Physicians of London, and the only thing needed to render it successful is the money. In view of the enormous benefits that would ensue to thousands of unfortunate sufferers if any certain cure for cancer could be discovered we have great hopes that such an appeal will not be allowed to go unanswered. When so much activity is displayed with regard to the solution of the problems connected with cancer not only in Germany and in this country but also in many other countries, the beginning of the new century may well see most important advances in our knowledge of the etiology and the treatment of this dread disease.

THE THINGOE GUARDIANS AND THEIR MEDICAL OFFICER.

WHEN dealing with a forlorn hope at the bar of justice it is not an altogether unknown practice to endeavour to conceal the weakness of the position by abusing the opposing counsel, and it would seem that amongst boards of guardians and rural district councillors there is a general understanding that when difficulties and doubts assail them the wisest course to pursue is to abuse the medical officer. An instance of this practice occurred recently at a meeting of the Thingoe Board of Guardians, and the facts are worth recalling as an illustration of the unfair positions in which medical officers are placed at times. A tramp was admitted into the casual ward of the Thingoe Workhouse on the night of Jan. 7th, and as he was not feeling well on the following day the medical officer was asked to see him. The patient presented no very definite symptoms, but as on the next day he was found to be suffering from bronchitis he was removed to the proper place—i.e., the infirmary. Unfortunately, however, on Jan. 10th the patient developed a rash which was thought to be measles and he was isolated at once, but the rash becoming vesicular small-pox was recognised and all precautions against the spread of the disease were taken. As far as we are able to judge from the reports which have reached us, the medical officer acted properly and with commendable promptitude, but the chairman of the board of guardians, as also a non-medical Local Government Board inspector, thought otherwise. In their view the patient should at once have been sent to the isolation block and not to the infirmary, and the inspector went so far as to characterise the medical officer's action as "most reprehensible." It is to be deplored that in matters such as this a lay inspector should be in a position to make derogatory comments upon the conduct of a medical man in connexion with a question concerning which such inspector cannot possess the necessary training or knowledge to form a correct judgment upon. It is easier to be wise after the event than it is to diagnose a case of small-pox when all the data necessary for arriving at a conclusion are absent. To send a patient who was apparently suffering from bronchitis alone into an isolation block would, it seems to us, be most unwise, and we would remind the inspector, as also the chairman, that small-pox does not usually begin with bronchitis. The chairman stated at the meeting that small-pox "would have been the first thing which would have struck him," but if all tramps who present themselves at the Thingoe Workhouse, and who are unfortunate enough to be suffering from bronchial catarrh, are to be sent to the isolation block to keep company with the small-pox patient we trust that the chairman will persuade them to be revaccinated on arrival. Had the Local Government Board inspector taken the precaution to consult one of his professional colleagues he would doubtless have omitted his uncalled-for comments, but all this is a likely consequence of the employment of lay inspectors to deal with scientific matters. Now that a case of small-pox has actually occurred the guardians have resolved to purchase a wooden hut, and from this it is to be inferred that the Rural District Council of Thingoe has failed to provide the necessary isolation accommodation for small-pox, a reprehensible omission which does not seem to have called forth any criticism from the Local Government Board inspector.

SMALL-POX IN LONDON.

THE returns of small-pox in London for the past week show the following figures. On Saturday, Jan. 25th, there were 28 fresh cases notified and removed; on Sunday, the 26th, there were 23 fresh cases; on Monday, the 27th, there were 53 fresh cases; on Tuesday, the 28th, there were 58 fresh cases; and on Wednesday, the 29th, there were 71 fresh cases.

EXPERIMENTS UPON THE CAUSE OF SUDDEN DEATH DURING THE ADMINISTRATION OF CHLOROFORM.

WE understand that Professor C. J. Martin of Melbourne will bring forward at the next meeting of the Society of Anæsthetists, on Friday, Feb. 7th, at 20, Hanover-square, W., a highly interesting communication illustrated by lantern-slide demonstration. Dr. E. H. Embley of Melbourne has, with Professor Martin's assistance, been investigating the effect produced by vagus stimulation during chloroform narcosis. All medical men are invited to be present.

PYGMIES OF THE CONGO FOREST.

THE February number of the *Pall Mall Magazine* contains a most interesting article by Sir Harry Johnstone, K.C.B., upon ape-like men and pygmies of the Uganda borderland. The average height of a male pygmy is four feet seven inches, and of a female four feet two inches. They are of two types, a red and a black. In many the fœtal down is persistent, while in addition there is a fairly thick growth of coarse black curly hair in the usual situations such as the axillæ, the pubes, and the chest. They are of an ape-like type, the nose being very flattened, while the alæ nasi spread out and project as far as the tip of the nose. Sir Harry Johnstone says: "In some of the dwarfs there is a great prominence in the nates or posterior which recalls, though it does not equal, the huge development in that direction of the Bushman and Hottentot. This feature in man is not a particularly simian sign, as the great apes are noted on the other hand for the very poor development of these hinder muscles." Sir Harry Johnstone is arguing here from mistaken premisses: the prominence of the buttocks in Hottentots and in some other races is due not to muscular hypertrophy but to enormous masses of subcutaneous fat. In the Hottentot Venus, "Dr. Somerville found on dissection that the size of the buttocks arose from a vast mass of fat interposed between the skin and the muscles, and that it equalled four fingers' breadth in thickness."[1] Sir Harry Johnstone is, of course, struck by the possibility that these pygmies and the like races which inhabited Europe at one time are the source of all the stories about gnomes, fairies, elves, brownies, piskies, and the like. The Congo pygmies, he says, can be good or bad neighbours to their black neighbours of a larger growth according to the treatment they receive. If

[1] Quoted by Sir William Lawrence, Lectures on the Natural History of Man, third edition, 1823.

their small thefts are condoned or if presents of food are left out for them they will take them away at night and make a return by leaving skins or ivory. Occasionally they steal the children of other tribes and leave their own changelings in place of those stolen. Dwarf women marry men of the big races, but Sir Harry Johnstone does not mention the converse as happening, although folk tales are full of stories of women of the upper world being carried away by the dwarfs of the underworld. We have not space to pursue this subject further, but the curious reader will find a most interesting note appended to the version of "Childe Rowland" as given by Mr. Joseph Jacobs in his "English Fairy Tales."

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THE MANAGEMENT OF REFORMATORY AND INDUSTRIAL SCHOOLS.

MR EDRIC BAYLEY, L.C.C., has embodied in a careful and instructive paper certain suggestions for the management of the London Reformatory and Industrial Schools. At the present time these schools are administered by three distinct authorities. The Corporation of the City of London is responsible for 81 children in the city committed to reformatory or industrial schools, at an average cost of £16 17*s.* 3½*d.* per head. The corporation has no schools under its own control but pays for the accommodation of these children in schools under other management. The School Board for London has an interest in the ordinary industrial schools in the county of London outside the city and in truant schools and day industrial schools established under special enactments both within and outside the city. It has no concern with reformatory schools. It provides, partly in schools under its own direction and partly in other schools with which it has made arrangement, for 3945 children, at an average cost per head of £12 18*s.* 7½*d.* The London County Council has under its charge in reformatory schools and industrial schools outside the city, but in the county of London, 1115 children, at an average cost of £18 12*s.* 2½*d.* per head. It has also made provision for the further training and employment of boys by creating homes at Llandilo (Carmarthen), at Cardiff, and at Lowestoft, where the pupils are employed in farming or are enabled to follow a trade or a seafaring life. It finds occupation for others in its own works department and makes arrangements with technical institutes to receive boys for instruction after leaving school. The greater cost per head of children under the supervision of the Council is largely due to the fact that two large industrial schools under its control at Feltham and Mayford receive a much less number of inmates than they are capable of accommodating. Consequently their expenditure is relatively high as compared with the educational work which they are allowed to do. This disproportion would be remedied with mutual benefit, both as regards economy and educational advantage, if suitable pupils under the care of the London School Board were consigned to the establishments under the control of the London County Council. Both of these bodies are supported by the same rate-paying constituency and they have not so far been organised so as to supplement one another and thus to husband the finances of both in the most efficient manner. This, in brief, is Mr. Bayley's argument, and he proposes in support of it that a joint committee should be formed representing these two now separate authorities with the object of enabling them to act in unison. He suggests also that the Corporation of the City of London, in so far as it is concerned with education, should be affiliated with them, and that the Poor-law authorities in London, who are responsible for the training of 18,000 children, should enjoy the same privilege in respect of refractory cases for which the discipline of industrial and reformatory schools is advisable. It must be admitted that there is a good deal to be said in favour of this proposal and there is no doubt that throughout his interesting paper Mr. Bayley has followed with commendable impartiality the logic of the facts on which his argument is based.

THE TRANSMISSION AND PROPHYLAXIS OF MALARIA.

IN an article which originally appeared in the *Giornale Medico del Re Esercito* for March, 1901, and which the writer has now republished in separate form, Lieutenant-Colonel Luigi Ferrero de Cavallerleone, director of the military hospital at Rome, gives an interesting account of a series of experiments which was carried out under his orders during the autumn of 1900 in order to elucidate as clearly as possible the rôle played by the anopheles in the transmission of malaria and at the same time once more to demonstrate the prophylactic virtues of quinine. Six of the most malarious forts on the Campagna having been placed, together with their garrisons, at his disposal by the authorities, Lieutenant-Colonel de Cavallerleone caused them to be fitted up according to his directions and issued detailed instructions for the occupants which were to be supervised and enforced by two specially selected medical officers. The investigation, which lasted for four and a half months, from July 15th to the end of November, was most strictly controlled, the results, briefly stated, being as follows: (1) soldiers protected against mosquito bites but not taking quinine, percentage of malaria cases 2·6; (2) soldiers protected and also taking quinine daily in doses of three grains, percentage of cases 1·7; (3) permanent residents, unprotected and not taking quinine, percentage of cases 33·3; and (4) permanent residents, unprotected but taking quinine daily, percentage of cases 20·0. Among 40 officers who were unprotected and took no quinine there was one case of malaria only, but in Lieutenant-Colonel de Cavallerleone's opinion this comparative immunity was due in the first place to a short period of residence (eight days on an average) and, secondly, to the fact that officers are far more cleanly in their habits than are private soldiers and consume more nourishing food. Among 1632 soldiers garrisoning the forts which were not included in the experiment the percentage of cases of malaria was 0·5. These men were not specially protected against mosquitoes but they all took quinine daily. In five out of the six forts where the experiment took place numerous specimens of the anopheles were captured and the same insect was also observed in four of the outside forts where cases of malaria occurred. In the forts, however, where malaria was unknown, not a single member of the species could be detected although mosquitoes belonging to other families were abundant. In conclusion, Lieutenant-Colonel de Cavallerleone discusses various products which have been

proposed for the destruction of mosquitoes. Many of these preparations are inert, he thinks, and some merely put the insects to sleep for a few hours; but Zanzolina's powder he believes to be a genuine insecticide. Burnt at the rate of half a gramme per cubic metre of space this compound proved most effective in completely freeing rooms from mosquitoes of every kind.

VISITING SMALL-POX PATIENTS.

AT a meeting of the Metropolitan Asylums Board on Jan. 25th the Hospitals Committee reported that they had considered a letter from the Local Government Board asking for the observations of the managers upon a letter which they had received from Dr. F. J. Allan, medical officer of health of the City of Westminster, as to the vaccination of visitors to patients suffering from small-pox. The committee stated that although every visitor to a patient was strongly pressed to be vaccinated they did not think it possible for the managers to make vaccination a condition of being allowed to enter the hospital. They had now, however, taken the precaution of forwarding the names and addresses of all visitors, whether they accepted vaccination or not, to the medical officer of health in the district in which they resided. They recommended that a reply should be sent to the Local Government Board on the lines of the com- Colonel R. Bullock moved as an amendment ould be made a condition of visitors being l-pox hospitals. The amendment having airman of the Hospitals Committee practice would never be tolerated in ttee, he considered, had dealt with umane manner. The amendment mendation was adopted.

...MATED WITH DEFECTIVE ...T OF THE BACK OF ...HE SKULL.

...fective development or absence of the ...e brain is a rare and interesting pheno- ...et striking anatomical appearance in this ...aracteristic formation of the back of the head marked by absence of the occipital development. In the *American Journal of the Medical Sciences* for January Dr. Charles Oliver reports the case of a girl, four years of age, who was born at full term with a "badly-shaped head and large, prominent eyes. She could see a little till she was three years of age, when she became totally blind and the protrusion of the eyeballs grew more pronounced." The mental condition of the child was good and she was free from epilepsy. Clinical examination showed that the head was disproportionately small and quite deficient posteriorly. The eyes were prominent, divergent, and in constant motion (rotatory nystagmus). The occipital protuberance was almost wanting and the cranial vault presented other interesting features. Thus the superciliary ridges were quite flattened and the forehead was elevated and dome-shaped in the pre-Rolandic region. The lower jaw was incompletely developed and showed a marked recession of the chin. Both ears showed faults of development. The eyelids were large and lax and the pupils were somewhat unequal but capable of reacting well both to light and accommodation. Ocular movements were free in all directions. The ocular media were clear and the fundus was normal on both sides. Repeated tests showed that the patient could not see even the brightest objects and was, in fact, totally blind. Adenoids were present in the nose and throat. The child died in her fourth year from intercurrent disease, but no necropsy could be obtained. Dr. Oliver points out that the posterior part of the skull was quite undeveloped, the bones extending in a plane upwards and forwards (from the cerebellar region) to meet the frontal protuberance which constituted the crown of the head. Skulls of this type were rare, but examination of the few known skulls of this form showed that the orbits were shallow and that the anterior coronal region was elevated. The most marked ocular symptoms in such cases were loss of sight, which was total, or almost total, in both eyes, and some degree of exophthalmos. Ocular movements were retained, thus indicating that the ocular motor nerves and nuclei were unaffected. The lesion was one affecting the occipital lobes of the brain either as a defect of development or as the result of damage sustained in early infancy, and the prognosis was hopeless as regards sight. A condition of increased intracranial pressure has been suggested by Friedenwald as being present in such cases and as being one of the causes of the exophthalmos observed, but the causation of such increased pressure is still obscure.

THE RUSSIAN LABOUR LAWS.

A VERY instructive report concerning the Russian labour laws has recently been published by order of M. de Witte, the Imperial Russian Minister of Finance. The report was drawn up by M. E. Dementief, and although it consists of no more than 20 pages the information is so condensed that it is impossible to give a digest of all the facts which it contains. It may be useful, however, to call attention to some of the matters which are dealt with in order to show that the book of which it forms part[1] deserves to be studied by all those who are interested in the labour laws. A point which has received much attention in Russia is the working of the insurance offices which have been started in view of the responsibility that had recently been thrown on employers to give compensation to their workmen or to their relatives in cases in which injuries have resulted either in temporary or permanent disablement or in loss of life. Having regard to the effects of the Workmen's Compensation Acts which have lately been passed in this country there is more than one point mentioned in the Russian report which will be found of interest. For example, the great value of the system of mutual insurance as opposed to that of the system previously in general use is clearly shown. It is also worthy of note that under the Russian system compensation is not given if an accident occurs through malicious design on the part of the sufferer, or in consequence of his being intoxicated or of his being mixed up in a brawl. In regard to the control of unhealthy trades little has hitherto been effected. The only industry, indeed, which has been practically controlled is that of the manufacture of phosphorus matches, and this has been done indirectly by means of differential taxation. By this means it has resulted that safety matches are rapidly succeeding the old type of matches which were formerly in very general use. In Russia, as compared with this country, a striking difference exists as to the number of holidays obtained by the workmen. Thus, in Russia a contract between an employer and his workmen must definitely contain the provision that all Sundays and 17 "great holidays," or days substituted for them, are to be free from work. Special contracts may, however, be made on occasion, but each special contract provides for only a single day. The wages paid to workmen appear, on the whole, to be low, but in many parts of the country the dwelling houses of the workpeople are provided by the manufacturers. In some districts over half the employés are housed by the manufacturers. This fact is not without interest in view of the difficulties presented in England in this matter and the action recently taken by a large firm of glass manufacturers

[1] Russia: Its Industries and Trade. Glasgow: Hay, Nisbet and Co 1901.

their small thefts are condoned or if presents of food are left out for them they will take them away at night and make a return by leaving skins or ivory. Occasionally they steal the children of other tribes and leave their own changelings in place of those stolen. Dwarf women marry men of the big races, but Sir Harry Johnstone does not mention the converse as happening, although folk tales are full of stories of women of the upper world being carried away by the dwarfs of the underworld. We have not space to pursue this subject further, but the curious reader will find a most interesting note appended to the version of "Childe Rowland" as given by Mr. Joseph Jacobs in his "English Fairy Tales."

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IN our issue of Dec. 7th, 1901, p. 1598, we referred to the matter of the pay of civil surgeons serving with the army at home. The chief point upon which we commented was the refusal of the Secretary of State for War to allow the civil surgeons the gratuity specified in Army Order 136 of June, 1901. We now hear that the civil surgeons interested have received a reply on behalf of the Secretary of State for War to the effect that he has given full consideration to the claims of the civil surgeons for increase of salary and payment of gratuity but that he is unable to grant either. So, we suppose, the matter rests, but we confess that we should like to know how Mr. Brodrick squares this decision with Army Order 136. True, the Order was only to apply to surgeons whom the Secretary of State for War considered eligible, but are none of the civil surgeons eligible?

THE MANAGEMENT OF REFORMATORY AND INDUSTRIAL SCHOOLS.

MR EDRIC BAYLEY, L.C.C., has embodied in a careful and instructive paper certain suggestions for the management of the London Reformatory and Industrial Schools. At the present time these schools are administered by three distinct authorities. The Corporation of the City of London is responsible for 81 children in the city committed to reformatory or industrial schools, at an average cost of £16 17*s.* 3½*d.* per head. The corporation has no schools under its own control but pays for the accommodation of these children in schools under other management. The School Board for London has an interest in the ordinary industrial schools in the county of London outside the city and in truant schools and day industrial schools established under special enactments both within and outside the city. It has no concern with reformatory schools. It provides, partly in schools under its own direction and partly in other schools with which it has made arrangement, for 3945 children, at an average cost per head of £12 18*s.* 7½*d.* The London County Council has under its charge in reformatory schools and industrial schools outside the city, but in the county of London, 1115 children, at an average cost of £18 12*s.* 2½*d.* per head. It has also made provision for the further training and employment of boys by creating homes at Llandilo (Carmarthen), at Cardiff, and at Lowestoft, where the pupils are employed in farming or are enabled to follow a trade or a seafaring life. It finds occupation for others in its own works department and makes arrangements with technical institutes to receive boys for instruction after leaving school. The greater cost per head of children under the supervision of the Council is largely due to the fact that two large industrial schools under its control at Feltham and Mayford receive a much less number of inmates than they are capable of accommodating. Consequently their expenditure is relatively high as compared with the educational work which they are allowed to do. This disproportion would be remedied with mutual benefit, both as regards economy and educational advantage, if suitable pupils under the care of the London School Board were consigned to the establishments under the control of the London County Council. Both of these bodies are supported by the same rate-paying constituency and they have not so far been organised so as to supplement one another and thus to husband the finances of both in the most efficient manner. This, in brief, is Mr. Bayley's argument, and he proposes in support of it that a joint committee should be formed representing these two now separate authorities with the object of enabling them to act in unison. He suggests also that the Corporation of the City of London, in so far as it is concerned with education, should be affiliated with them, and that the Poor-law authorities in London, who are responsible for the training of 18,000 children, should enjoy the same privilege in respect of refractory cases for which the discipline of industrial and reformatory schools is advisable. It must be admitted that there is a good deal to be said in favour of this proposal and there is no doubt that throughout his interesting paper Mr. Bayley has followed with commendable impartiality the logic of the facts on which his argument is based.

THE TRANSMISSION AND PROPHYLAXIS OF MALARIA.

IN an article which originally appeared in the *Giornale Medico del Re Esercito* for March, 1901, and which the writer has now republished in separate form, Lieutenant-Colonel Luigi Ferrero de Cavallerleone, director of the military hospital at Rome, gives an interesting account of a series of experiments which was carried out under his orders during the autumn of 1900 in order to elucidate as clearly as possible the rôle played by the anopheles in the transmission of malaria and at the same time once more to demonstrate the prophylactic virtues of quinine. Six of the most malarious forts on the Campagna having been placed, together with their garrisons, at his disposal by the authorities, Lieutenant-Colonel de Cavallerleone caused them to be fitted up according to his directions and issued detailed instructions for the occupants which were to be supervised and enforced by two specially selected medical officers. The investigation, which lasted for four and a half months, from July 15th to the end of November, was most strictly controlled, the results, briefly stated, being as follows: (1) soldiers protected against mosquito bites but not taking quinine, percentage of malaria cases 2·6; (2) soldiers protected and also taking quinine daily in doses of three grains, percentage of cases 1·7; (3) permanent residents, unprotected and not taking quinine, percentage of cases 33·3; and (4) permanent residents, unprotected but taking quinine daily, percentage of cases 20·0. Among 40 officers who were unprotected and took no quinine there was one case of malaria only, but in Lieutenant-Colonel de Cavallerleone's opinion this comparative immunity was due in the first place to a short period of residence (eight days on an average) and, secondly, to the fact that officers are far more cleanly in their habits than are private soldiers and consume more nourishing food. Among 1632 soldiers garrisoning the forts which were not included in the experiment the percentage of cases of malaria was 0·5. These men were not specially protected against mosquitoes but they all took quinine daily. In five out of the six forts where the experiment took place numerous specimens of the anopheles were captured and the same insect was also observed in four of the outside forts where cases of malaria occurred. In the forts, however, where malaria was unknown, not a single member of the species could be detected although mosquitoes belonging to other families were abundant. In conclusion, Lieutenant-Colonel de Cavallerleone discusses various products which have been

proposed for the destruction of mosquitoes. Many of these preparations are inert, he thinks, and some merely put the insects to sleep for a few hours; but Zanzolina's powder he believes to be a genuine insecticide. Burnt at the rate of half a gramme per cubic metre of space this compound proved most effective in completely freeing rooms from mosquitoes of every kind.

VISITING SMALL-POX PATIENTS.

AT a meeting of the Metropolitan Asylums Board on Jan. 25th the Hospitals Committee reported that they had considered a letter from the Local Government Board asking for the observations of the managers upon a letter which they had received from Dr. F. J. Allan, medical officer of health of the City of Westminster, as to the vaccination of visitors to patients suffering from small-pox. The committee stated that although every visitor to a patient was strongly pressed to be vaccinated they did not think it possible for the managers to make vaccination a condition of being allowed to enter the hospital. They had now, however, taken the precaution of forwarding the names and addresses of all visitors, whether they accepted vaccination or not, to the medical officer of health in the district in which they resided. They recommended that a reply should be sent to the Local Government Board on the lines of the committee's report. Colonel R. Bullock moved as an amendment that vaccination should be made a condition of visitors being allowed to enter small-pox hospitals. The amendment having been seconded, the chairman of the Hospitals Committee pointed out that such a practice would never be tolerated in this country. The committee, he considered, had dealt with the question in a most humane manner. The amendment was rejected and the recommendation was adopted.

BLINDNESS ASSOCIATED WITH DEFECTIVE DEVELOPMENT OF THE BACK OF THE SKULL.

BLINDNESS due to defective development or absence of the occipital lobe of the brain is a rare and interesting phenomenon. The most striking anatomical appearance in this case is a characteristic formation of the back of the head marked by absence of the occipital development. In the *American Journal of the Medical Sciences* for January Dr. Charles Oliver reports the case of a girl, four years of age, who was born at full term with a "badly-shaped head and large, prominent eyes. She could see a little till she was three years of age, when she became totally blind and the protrusion of the eyeballs grew more pronounced." The mental condition of the child was good and she was free from epilepsy. Clinical examination showed that the head was disproportionately small and quite deficient posteriorly. The eyes were prominent, divergent, and in constant motion (rotatory nystagmus). The occipital protuberance was almost wanting and the cranial vault presented other interesting features. Thus the superciliary ridges were quite flattened and the forehead was elevated and dome-shaped in the pre-Rolandic region. The lower jaw was incompletely developed and showed a marked recession of the chin. Both ears showed faults of development. The eyelids were large and lax and the pupils were somewhat unequal but capable of reacting well both to light and accommodation. Ocular movements were free in all directions. The ocular media were clear and the fundus was normal on both sides. Repeated tests showed that the patient could not see even the brightest objects and was, in fact, totally blind. Adenoids were present in the nose and throat. The child died in her fourth year from intercurrent disease, but no necropsy could be obtained. Dr. Oliver points out that the posterior part of the skull was quite undeveloped, the bones extending in a plane upwards and forwards (from the cerebellar region) to meet the frontal protuberance which constituted the crown of the head. Skulls of this type were rare, but examination of the few known skulls of this form showed that the orbits were shallow and that the anterior coronal region was elevated. The most marked ocular symptoms in such cases were loss of sight, which was total, or almost total, in both eyes, and some degree of exophthalmos. Ocular movements were retained, thus indicating that the ocular motor nerves and nuclei were unaffected. The lesion was one affecting the occipital lobes of the brain either as a defect of development or as the result of damage sustained in early infancy, and the prognosis was hopeless as regards sight. A condition of increased intracranial pressure has been suggested by Friedenwald as being present in such cases and as being one of the causes of the exophthalmos observed, but the causation of such increased pressure is still obscure.

THE RUSSIAN LABOUR LAWS.

A VERY instructive report concerning the Russian labour laws has recently been published by order of M. de Witte, the Imperial Russian Minister of Finance. The report was drawn up by M. E. Dementief, and although it consists of no more than 20 pages the information is so condensed that it is impossible to give a digest of all the facts which it contains. It may be useful, however, to call attention to some of the matters which are dealt with in order to show that the book of which it forms part[1] deserves to be studied by all those who are interested in the labour laws. A point which has received much attention in Russia is the working of the insurance offices which have been started in view of the responsibility that had recently been thrown on employers to give compensation to their workmen or to their relatives in cases in which injuries have resulted either in temporary or permanent disablement or in loss of life. Having regard to the effects of the Workmen's Compensation Acts which have lately been passed in this country there is more than one point mentioned in the Russian report which will be found of interest. For example, the great value of the system of mutual insurance as opposed to that of the system previously in general use is clearly shown. It is also worthy of note that under the Russian system compensation is not given if an accident occurs through malicious design on the part of the sufferer, or in consequence of his being intoxicated or of his being mixed up in a brawl. In regard to the control of unhealthy trades little has hitherto been effected. The only industry, indeed, which has been practically controlled is that of the manufacture of phosphorus matches, and this has been done indirectly by means of differential taxation. By this means it has resulted that safety matches are rapidly succeeding the old type of matches which were formerly in very general use. In Russia, as compared with this country, a striking difference exists as to the number of holidays obtained by the workmen. Thus, in Russia a contract between an employer and his workmen must definitely contain the provision that all Sundays and 17 "great holidays," or days substituted for them, are to be free from work. Special contracts may, however, be made on occasion, but each special contract provides for only a single day. The wages paid to workmen appear, on the whole, to be low, but in many parts of the country the dwelling houses of the workpeople are provided by the manufacturers. In some districts over half the employés are housed by the manufacturers. This fact is not without interest in view of the difficulties presented in England in this matter and the action recently taken by a large firm of glass manufacturers

[1] Russia: Its Industries and Trade. Glasgow: Hay, Nisbet and Co 1901.

in the East End of London, where some ill-feeling was caused by the importation of a large number of German workmen who were provided with dwellings at a nominal rent by the employers, the latter finding this the only practical means of introducing modern methods into an ancient trade. The report contains a good deal of information which will be new to most English readers, and it is pleasing to note that there is no doubt that the conditions of labour in Russia are in many respects improving, that the number of child-workers is diminishing, and that provision is now made for their education.

THERAPEUTIC APPLICATIONS OF SPERMIN.

WE have received from Dr. G. von Hirsch of St. Petersburg a short communication on the therapeutic applications of spermin, a substance of animal origin first obtained by Professor Poehl, whose investigations were published in the Russian journal *Vratch*, 1892, No. 21, and in the *Deutsche Medicinische Wochenschrift*, 1892, No. 49. Dr. von Hirsch's article, which is a reprint from the Transactions of the Congress of Internal Medicine held in Berlin last year, is devoted principally to abnormalities in the frequency and rhythm of the pulse and their treatment by means of spermin; it also gives references to a series of cases of anæmia, tabes, and endarteritis obliterans treated by him with the same substance and already published in the *St. Petersburger Medicinische Wochenschrift*, No. 7, 1897. Spermin is given in the form of an "essentia" of which 20 drops are taken three times a day. Dr. von Hirsch quotes numerous favourable opinions regarding it expressed by various eminent medical authorities. He says that its power of correcting irregular action of the heart depends on the fact that it is an active promoter of physiological tissue oxidation, especially in the case of neurin, xanthin, and other metabolic products which act as cardiac poisons but are by oxidation converted into inactive compounds.

THE ADVANCE OF NOSOLOGY.

THE first issue for 1902 of the Registrar-General's "Weekly Return of Births and Deaths in London and Seventy-four other Great Towns" prints certain old-established "causes of death" in italics on the ground that they are "the names of symptoms only" or are otherwise objectionable. Medical men are thus warned against using in future such misleading terms as "tabes mesenterica" and the familiar "convulsions," "apoplexy," and "phthisis." Nosology becomes more and more scientific, and a stroke of the pen now bids fair to render obsolete much of the terminology, not only of extant medical literature, but of familiar conversation and popular fiction when these deal with disease. The names of illnesses used at different epochs and stereotyped in bills of mortality throw a flood of light upon manners and popular opinions. Referring at random to a volume of the *Annual Register* for 1783 we find that "A General Bill of all the Christenings and Burials" in London from December, 1782, to December, 1783, contains the very epitome of a past which, though not far distant in point of time, yet differs widely from our own accurate and analytical present. Over 19,000 persons died in London in 1782–83, and of these, we are informed, more than 12,000 died from old age or "aged." By "apoplexy and sudden" 219 were carried off, 19 died "bed-ridden," three died from "bleeding," five from "bloody flux," and five were "bursten." "Cholic, gripes, twisting of the guts" carried off 37. "Spotted fever, purples, flux and strangury," "headach," "headmouldshot, horshoehead, and water in the head," "imposthume," "lethargy," "livergrown"—all figure as causes of death. "Tympany," "rising of the lights," and "scald head" claim no victims, and may be survivals of an older nomenclature like our own "tabes mesenterica," but, on the other hand, "St. Anthony's fire" has one death to its account, and "grief" as many as four. It is curious to find "canker" and "cancer" already differentiated, while "phthisick and asthma" are lumped together. "Evil" still figures in place of "scrofula," now disappearing in the larger category of "tuberculosis," and we are reminded that in this year (1783) old Dr. Johnson was still manfully battling with encroaching disease, and that he was one of the last people to have been "touched" by Queen Anne for the cure of king's evil. In remarkable contrast to this semi-barbarous bill of mortality are Johnson's lines "On the Death of Dr. Robert Levet" which appear in the same volume of the *Annual Register*:—

> "Well tried through many a varying year,
> See Levet to the grave descend;
> Officious, innocent, sincere,
> Of ev'ry friendless name the friend."

Among familiar names of disease we find, in this old account of London's deaths, that small-pox claimed about one in 12 of all persons dying in 1782–83, and that consumption and convulsions swept off more than half the 19,000 who actually died. 269 individuals perished by violence or casualty, and of these 15 were executed during the year, four were murdered, 110 were drowned, while others were overlaid, scalded, smothered, burnt, or carried off by "excessive drinking." The minute description of the cause of death in these latter cases suggests social horrors of more than Hogarthian intensity.

THE DISTRIBUTION OF PLAGUE.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Jan. 24th states that for the week ending Jan. 23rd there were 14 cases of bubonic plague, of which 7 proved fatal.—The Local Government Board for Scotland has issued a memorandum with respect to plague, dealing chiefly with the matter of rats and the chances of infection by these animals. It is pointed out that every measure should be taken to prevent rats from leaving a ship which may reasonably be supposed to be infected with plague or on board of which exceptional sickness has been prevalent among rats, even although the ship has not come from an infected port and has had no cases of suspicious sickness among her crew. All rats on board should be destroyed, their bodies being at once cremated. *Pari passu*, if sickness occurs amongst rats on land measures should be taken for the destruction of the survivors, for preventing their entrance into houses or ships, and as far as possible all places or articles that have been exposed to infection should be disinfected. As regards Egypt, during the week ending Jan. 19th, 17 cases and 14 deaths from plague have been announced; these all occurred among the native population.

THE VOLUNTARY NOTIFICATION OF TUBERCULOSIS.

THE Committee of the London Reform Union at its last meeting unanimously passed the following resolution:—

> That the Executive Committee of the London Reform Union, recognising the important part which a system of voluntary notification must play in the war against consumption which the people of this country under the leadership of the King have entered upon, and the success which has attended its adoption by many municipal authorities, earnestly urges those metropolitan borough councils where this method is not yet employed to introduce it at the earliest possible moment.

The Union is also issuing a leaflet containing information upon (1) "The Nature of Consumption," (2) "What Local Authorities can Do to Deal with this Scourge," (3) "The Advantages of the System," and (4) "Where Voluntary Notification is Adopted." The leaflet contains sound information written in a plain and simple manner, so that everyone should be able to understand it. We commend the London Reform Union for its efforts in the cause of the prevention

of tuberculosis and may inform our readers that copies of the leaflet for distribution can be obtained from the secretary of the Union, Trafalgar-buildings, Charing-cross, W.C. We may remark in addition that the London Reform Union could do another excellent work by pointing out how to avoid, or at all events to minimise, the effects of small-pox, a disease at present very prevalent in the metropolis. If the London Reform Union would issue a simple leaflet dealing with this disease and with the figures recently published by the Metropolitan Asylums Board as to the incidence of small-pox in vaccinated and in non-vaccinated persons respectively it would go far to do away with the honest if altogether foolish prejudice which exists against vaccination in so many quarters.

THE FELLOWS' DINNER OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE annual Fellows' dinner of the Royal Medical and Chirurgical Society will be held at the Whitehall Rooms of the Hôtel Métropole on Wednesday evening, Feb. 26th, at 7.30. It used to be said that the premier medical society was inhospitable, but since the excellent precedent of inviting guests to the annual dinner was created by Mr. Timothy Holmes, when he filled the chair, the interesting series of Fellows' dinners has removed any ground, if it ever existed, for such a reproach. At the next dinner the chair will be taken by the President, Dr. F. W. Pavy, M.D., LL.D., F.R.S., and among the guests are included the President of the Royal College of Physicians of London (Sir William S. Church), the President of the General Medical Council (Sir William Turner), the Director-General of the Royal Navy Medical Service (Sir Henry Norbury), the Director-General of the Army Medical Service (Surgeon-General Taylor), the Principal of the University of London (Professor Rücker), the Secretary of the Royal Society (Sir Michael Foster, M.P.), Mr. Ouless, R.A., and Dr. Conan Doyle.

THE PROPOSED UNIVERSITY FOR LIVERPOOL.

THE public meeting of the citizens of Liverpool held at the Liverpool Town-hall on Jan. 27th to consider the desirability of establishing a separate university for that city was a pronounced success. The meeting was presided over by the Lord Mayor of Liverpool (Mr. A. C. Petrie) and was attended by a thoroughly representative and influential gathering, which included the Earl of Derby, K.G., the Lord Bishop of Liverpool (Dr. Chavasse), Sir John Brunner, Bart., M.P., Sir William H. Tate, Bart., Sir William Mitchell Banks, Sir William Forwood, the principal of University College, Liverpool (Mr. A. W. W. Dale), Archdeacon Madden, the Rev. Dr. Watson (Ian MacLaren), and others. The Lord Mayor announced that £80,000 had already been subscribed towards the realisation of the project, and pointed out that, although differences of opinion existed in Liverpool on many subjects in connexion with the "omnibus" Bill of the Liverpool Corporation about to be promoted in Parliament, not a single vote had been recorded against that part of it which asked for power to assist the proposed university. The motion relating to the establishment of a university for Liverpool was proposed by the Earl of Derby, who said that they wanted to bring university facilities within the reach of all they possibly could. Dr. Chavasse seconded the motion in an eloquent speech and said that University College, Liverpool, with its 26 professors and some 60 readers, had surely a claim to be recognised as a university which would be a coping-stone of the educational system for which Liverpool was famous. It would help on merchants, engineers, and men of science to compete with those of the continent. The motion was supported by Principal Dale, Sir William Mitchell Banks, and others, and was carried. The keystone of all the speeches was progress; there was no thought of rivalry with the old universities.

THE NEW WARRANT FOR THE ARMY MEDICAL SERVICE.

MR. BRODRICK has announced in Parliament that the speedy appearance of the new warrant for the Army Medical Service may be expected. We hope and indeed believe that when it appears it will be found that due consideration has been given to the objections urged against the original scheme by the subcommittee of the British Medical Association and by ourselves.

THE NOTIFICATION OF CHICKEN-POX.

THE London County Council have issued an order pursuant to a resolution of the Council passed on Jan. 28th. The order was advertised on Jan. 30th and comes into force at the expiration of one week from that date. Our readers will remember that in our issue of Jan. 25th we noted that eight metropolitan boroughs had already declared chicken-pox to be a notifiable disease. The London County Council order runs as follows:—

> The London County Council do hereby resolve and order that Section 55 of the Public Health (London) Act, 1891, with respect to the notification of infectious disease shall apply in the administrative county of London, for a period of three calendar months, to the disease known as chicken-pox, and the Council do hereby declare that the case is one of emergency owing to the prevalence of small-pox in London, and the fact that the failure in many cases to distinguish between chicken-pox and small-pox has led, and is leading, to the spread of the latter disease.

THE SANITARY INSTITUTE LECTURES.

THE thirty-third course of Lectures and Demonstrations for Sanitary Officers will be delivered during the months of February, March, and April, 1902, at the Parkes Museum, Margaret-street, London, W. The lectures, which will be given at 7 P.M., are divided into two courses, the first dealing with Elementary Physics and Chemistry in relation to Water, Soil, Air, Ventilation, and Meteorology, Public Health Statutes, By-laws, Municipal Hygiene, &c., together with practical demonstrations of measurements and drawing plans to scale. The second course embraces lectures on Meat and Food Inspection and the taking of Samples of Water, Food, and Drugs for Analysis. Arrangements have also been made for the inspection of disinfecting stations, soap-works, common lodging-houses, sewage-farms, waterworks, dairy farms, and such like places, practical demonstrations being given at the same time where necessary. Among the lecturers are Dr. E. J. Steegmann, Dr. J. Priestley, Mr. A. W. Harris, Dr. E. Petronell Manby, and Dr. H. R. Kenwood. The fee for Part I. (25 lectures) is £2 12*s.* 6*d.*, and for Part II. (seven lectures) £1 1*s.* The fee for the complete course is £3 3*s.*

THE POISONOUS COÖPERATION OF ALCOHOL AND TOBACCO.

IT cannot be doubted that when evil effects ensue upon smoking tobacco they are very much intensified by indulgence in alcohol. Further, though even after a more than moderate indulgence in tobacco no toxic symptoms such as headache and stupor may supervene yet such would probably be the case if alcoholic drinking was practised at the same time. The powerfully solvent action of alcohol is sufficient explanation of this. It is, of course, well known in pharmacology that the active constituents of drugs are, as a rule, readily soluble in alcohol though not in water, and hence the class of preparations known as tinctures. Similarly nicotine and the pyridine bases are very easily soluble in alcohol. The chief poisonous constituent of tobacco smoke is pyridine and not nicotine

Pyridine is a poisonous base not so easily soluble in water as in alcohol. Pyridine bases can be easily traced in the mouth of an immoderate smoker, and especially the smoker of cigars. An alcoholic drink is therefore calculated quickly to wash out this poisonous oil and to carry it into the stomach, absorption of the poison ensuing, giving rise to definite toxic symptoms, due not so much to alcohol or pyridine bases alone as to the combined action of both in the manner indicated. Such symptoms would probably be avoided if smokers would abstain from drinking alcohol at the same time that smoking is being indulged in. Many a headache or malaise would thus be guarded against if at the time of smoking no alcoholic beverage were taken. An alternative plan would be to pass all the smoke through an absorbent, such as water, as in the hookah, and thus to exclude the poisonous oils. In such a case the accompaniment of an alcoholic drink would doubtless be much less injurious.

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

A MEETING of the Faculty of Medicine was held at the University Buildings on Jan. 24th, Mr. H. T. Butlin, the Dean of the Faculty, being in the chair. A communication was received from the Senate stating that in accordance with a recommendation recently presented by the Faculty a considerable increase has been made in the membership of the Faculty. The recommendation presented by the Faculty was as follows:—

That the Senate should admit to the Faculty of Medicine in accordance with its powers defined in Statute 60 (iii.)—

(1) Every person recognised as a teacher of one of the subjects of "Advanced Medical Studies,"
(2) Every person recognised, or provisionally recognised, as a teacher of one of the subjects of "Intermediate Medical Studies," and
(3) At least one recognised, or provisionally recognised, teacher in each subject of "Preliminary Medical Studies" from each school of the University in the Faculty of Medicine.

The Dean informed the meeting that the Senate had carried out the proposals made by the Faculty and that in consequence the membership had been increased from 158 to 359. He pointed out that the additional members consisted for the most part of the junior teachers on the staffs of the medical schools, upon whose efforts the future prosperity of the Medical Faculty of the University largely depended. At the same time adequate representation upon the Faculty was given to the teachers of anatomy and physiology and of the preliminary sciences. A report from a special committee appointed to consider the subject of the matriculation examination was received and adopted. In it the Faculty reaffirmed a resolution previously passed—

That no scheme of matriculation will be satisfactory which does not permit a wide choice of subjects for examination so as to meet the requirements of candidates, whether from the "classical" or "modern" side of secondary schools—

and expressed its approval of the proposals made to the Senate by the University's Advisory Board for the admission of students. Dr Lauriston E. Shaw was reappointed honorary secretary to the Faculty.

THERE will be a general meeting of the Medical Officers of Schools Association on Thursday, Feb. 6th, at 4 P.M., at 11, Chandos-street, Cavendish-square, London, W., when Mr. W. N. Shaw, F.R.S., late lecturer on physics in the University of Cambridge, will open a discussion on "The Ventilation of School Buildings," with special reference to its application to existing buildings. Other authorities on the subject are expected to speak and some special appliances connected with ventilation will be exhibited.

A MEETING of the Sanitary Institute will be held at the Parkes Museum on Wednesday, Feb. 12th, at 8 P.M., when a discussion on the Prevention of Small-pox in the Metropolis will be opened by Mr. A. Wynter Blyth, medical officer of health of St. Marylebone. The chair will be taken by Sir James Crichton-Browne, and as the seating accommodation is limited admission will be by ticket only. Those proposing to attend should apply for tickets of admission to Mr. White Wallis, secretary.

THE Committee of the Charing-cross Hospital Festival Dinner which is to be held on March 19th has secured the support, amongst others, of the Archbishop of Canterbury, the Bishop of London, Earl Roberts, Lord Iveagh, and the Hon. W. F. D. Smith, M.P. Lady Wantage has given £1000 to the hospital fund in memory of the late Lord Wantage.

AT the first meeting of the new Board of Management of the National Hospital for the Paralysed and Epileptic, held on Tuesday, Jan. 28th, the Earl of Harrowby was elected treasurer of the hospital, the Rev. Prebendary Wace chairman, and Mr. J. Danvers Power vice-chairman. Sir Edward Fry and the members of his committee of inquiry were elected honorary life governors of the hospital.

OWING to the closure of half of the hospital for repairs and the necessary conversion of the entertainment hall into a ward for patients it is impossible to hold any lectures at Brompton Hospital for Consumption until after Easter. The list of lectures will be advertised in due course.

THE death of Dr. Edmund Gwynn, late medical officer of health of Hampstead, is announced. Dr. Gwynn graduated as M.D. of St. Andrews in 1862. He was the author of "Shakespeare and Sanitation" and of "The Jerry Builder in Relation to the Dwellings of the Poor."

THE annual meeting of the Neurological Society of London will be held at 11, Chandos-street, W., at 8.30 P.M., on Thursday, Feb. 6th. The President, Mr. H. W. Page, will deliver the annual address on Concussion of the Brain in some of its Surgical Aspects.

THE annual dinner of the West London Medico-Chirurgical Society will be held at Frascati's Restaurant on Wednesday, Feb. 19th, at 7 P.M. Intending diners should communicate with Dr. L. C. T. Dobson, honorary secretary, 59, Addison-gardens, W.

DR. JOHN SHIELDS FAIRBAIRN has been appointed assistant obstetric physician to St. Thomas's Hospital.

Pharmacological Notes.

IODINE LEAF OR PAPER PLASTER.

AN ingenious method for the local application of iodine as a counter-irritant has been devised by L. Tixier,[1] consisting of two sheets of filter-paper, one saturated with a solution of potassium iodide and potassium iodate, and the other with potassium acid sulphate. When these are moistened and applied to the skin a considerable amount of iodine is liberated; after placing the moistened sheet on the affected part it is covered with oiled silk or bound with a bandage. The application for 15 minutes has the same effect as a mustard leaf; applied for 25 minutes the result is equal to two or three paintings with tincture of iodine; for from 25 to 45 minutes, the effect is that of strong iodised wool; in one hour the action is vesicant. The slight pain occasioned by the application disappears in 10 minutes after the removal of the papers. Directions are given for the preparation of the papers. When dry an iodide paper is separated from an acid

[1] Pharmaceutische Centralhalle, vol. xlii., p. 582, quoted in Pharmaceutical Journal.

paper by a sheet of plain filter-paper and the three sheets are fastened together with a composition consisting of paraffin oil, prepared chalk, resin, and oil of turpentine. They are then wrapped in gutta-percha tissue to keep them from moisture.

NATURAL AND ARTIFICIAL PERFUMES.

In an article on Natural and Artificial Perfumes a writer in *Nature*[1] brings forward many points of pharmacological interest. Thus, the oil of bitter almonds, highly esteemed as a flavouring agent and in perfumery, has sometimes been replaced by benzaldehyde, the highly poisonous so-called oil of mirbane, which has a similar odour. This substance is prepared from benzyl chloride, small quantities of which are retained by the benzaldehyde with great tenacity and impart to it a penetrating and unpleasant odour. To take another example, oil of turpentine consists essentially of a hydrocarbon of similar molecular type to irone and ionone, the synthetic substances which form the artificial violet perfumes. It is a noteworthy fact that turpentine when administered internally imparts a strong odour of violets to the urine. Little has yet been accomplished towards ascertaining the relation between the odour and the chemical constitution of substances in general. Hydrocarbons as a class possess considerable similarity in odour, so also do the organic sulphides and, to a smaller extent, the ketones. The subject waits for some investigator to correlate the physiological, psychological, and physical aspects of the subject in the same way that Helmholtz did in the science of sound. It seems, as yet, impossible to assign any probable reason for the fact that many substances have a pleasant odour. It may, however, be worth suggesting that certain compounds, such as the volatile sulphides and the indols, have markedly unpleasant odours because they are normal constituents of mammalian excreta and of putrified animal products; the repulsive odours may be simply necessary results of evolutionary processes.

TEST FOR INDICAN IN URINE.

A. Klett[2] recommends the following test for indican in urine. 10 cubic centimetres of urine are mixed with five cubic centimetres of 25 per cent. hydrochloric acid and a few drops of ammonium persulphate solution. An excess does not matter. If chloroform, on being added, is coloured blue the presence of indican is detected. The ammonium persulphate yields a precipitate with albumen, and the presence of bile pigments produces a green ring where the liquids meet.

THE LONDON CENSUS OF 1901.

THE first instalment of the detailed abstracts of returns for the census of 1901 has just been issued as a blue-book. It relates to the county of London and occupies 175 pages of closely printed matter.

From the preface we learn that a departure has on this occasion been made from the plan of publication adopted at previous censuses. In 1891 certain groups of facts, such as area, population, boundaries, &c., for each of the English counties were collected and issued in one volume, and in subsequent volumes certain other groups of facts relating to the ages, occupation, infirmities, &c., of the people were similarly dealt with.

On the present occasion, however, all the statistical data relating to each separate county will be published together, the object apparently being to secure that persons desirous of obtaining information respecting any particular area may find it under the same cover, instead of having to search through several volumes for the different series of facts required. Opinions will probably differ as to the wisdom of this change. It is but natural that those who are specially interested in the statistical details of certain localities should feel aggrieved if the turn of their particular county does not come until late in the order of publication, although this order may have been determined, as we believe it has been, strictly on a population basis. There will, however, be no dispute as to the superior claims of the metropolis to priority of publication, and the authorities of less important counties may fairly be reminded that in the preliminary report already issued the main facts of area, population, &c., for all the principal divisions and sub-divisions of England and Wales have been given in full.

The first thing which attracts attention in the volume before us is a coloured chart of London on a large scale which very clearly shows the several registration, municipal, and Parliamentary areas of the county. As a specimen of modern cartography we scarcely think it equal to similar productions that find their way into this country from France and other parts of the continent. Nevertheless, for the purposes which it is intended to serve it is perhaps sufficient, and it will certainly be appreciated by medical officers of health and the authorities whom they serve as a useful key to the complex and, for different purposes, overlapping areas into which the metropolis is still sub-divided, notwithstanding the simplification of areas which is said to have been effected by recent legislation.

The "London" of to-day—in which the administrative and registration counties have at last been made co-terminous—contains an area of 74,839 statute acres, according to the revised returns of the ordnance survey, and has a population of 4,536,541. In the year 1801 the population of London did not exceed 959,310; it has therefore increased in the course of the last century nearly five-fold. The population of the county of London, however, is not now increasing at the rapid rate which prevailed during the earlier decades of the century. Between 1841 and 1851 the rate of increase was 21 per cent., whereas during the last intercensal period the rate was only one-third of that amount. The rate of growth of population within the metropolitan area still continues to diminish. This is proved by the fact that from 1891 to 1896 (the year of the quinquennial census) the population had grown at the rate of 4·3 per cent., whereas from the latter year to 1900 the percentage rate of growth did not exceed 2·4.

In the City of London and in six of the central metropolitan boroughs the population has been actually declining, and that very rapidly, for the last 40 years, dwelling-houses having been demolished in large numbers in order to make room for the extension of warehouses and other business premises. Within the decade just closed the population of this area has diminished by 70,000. In "Greater London," however—i.e., the area included within the City and metropolitan police districts—the population has increased during the last 10 years by little short of 1,000,000, the exact rate of increase having been 17 per cent. It is into the outer zone of this area that the displaced population of central London has migrated and thereby caused a local accession to the total in recent years which must be enormous, but which cannot be measured even approximately until the census returns for the counties of Surrey, Kent, Essex, and Hertford are available for analysis.

Passing over, as of little interest to our profession, those sections of the report which deal with Parliamentary, ecclesiastical, and judicial matters, we come to a consideration of those details which relate to the public health and to the sanitary administration of the metropolis. For example, we are especially interested in what the census has to tell us concerning the ages, the housing, and the occupational condition of the labouring classes, concerning their overcrowding on area as well as in rooms, and also concerning the destitution and the infirmities which exist in the several parts of the metropolitan area. At the time of the recent census the county of London was divided into 30 registration districts, which are mostly co-extensive with Poor-law unions; in 14 out of the 30 cases the areas of the registration districts correspond with those of the newly constituted metropolitan boroughs, so that in these cases the means still exist of comparing the vital statistics of the new areas with those of the old London vestries. Medical officers of health will be glad to note that the present report contains full particulars for each of the metropolitan boroughs concerning the number of tenements occupied by each family and also concerning the occupational condition and the distribution by age and sex of the population. In London as a whole the total number of separate tenements has increased since the previous census by 8·7 per cent. But whilst the tenements containing more than five rooms have increased by 13 per cent., the increase of those with less than five rooms has been only 6·6 per cent. The reduction in the smaller class of tenements was most marked in the tenements of a single room only, which declined from 18 per cent. of the total in the year 1891 to 15 per cent. in 1901. It is further

[1] Nature, vol. lxiii., p. 212.

[2] Schweizerische Wochenschrift für Chemie und Pharmacie, vol. xxxix., page 31 (from the Chemiker Zeitung).

important to note that the number of single-room tenements containing more than two occupants declined from 57,000 to 41,000, while the number of one-roomed tenements with six or more occupants declined from 4000 to 1800. The tenements of two rooms showed a slight, and those of three and four rooms a marked, increase upon the numbers returned at the previous census.

The proportion of single-room tenements (which averaged 15 per cent. in all London) showed wide variations in the several boroughs, ranging from 3·5 per cent. in Lewisham, 4·1 in Wandsworth, and 6·4 in Hampstead, to 24·8 per cent. in Shoreditch, 26·3 in St. Marylebone, 26·4 in Finsbury, and 27·0 in Holborn. In the borough of Stepney, consisting of the Whitechapel, St. George's-in-the-East, Stepney, and Mile End Old Town registration districts, which during the last intercensal period received a large number of foreign immigrants, the proportion of one-room tenements did not exceed 21·7 per cent., showing a marked reduction from the proportion in 1891.

The occupational statistics now published are very complete, and as they are separately given for each of the metropolitan boroughs, as well as for the county as a whole, they will be appreciated by those who have at heart the welfare of the poorer classes in these areas respectively. In the county of London there were "engaged in occupation" 1,400,000 males and 719,000 females over ten years of age. Of "unoccupied" persons above the age of 10 years there were enumerated 274,000 males and 1,205,000 females. At the census of 1891 the proportion of the population engaged in occupation was 82·6 per cent. in the case of males, and 38·4 in the case of females. At the recent census the percentages were 83·6 and 37·4 respectively. Among occupations employing large numbers of persons commercial clerks have increased by 181 per cent. and therefore more rapidly than any others. Sick nurses, domestic indoor servants, and printers come next, with rates of increase ranging from 74 to 78 per cent. On the other hand, there has been a slight falling off in the number of seamstresses and of boot, shoe, &c. makers, and a great falling off in that of artificial flower makers amounting to 42 per cent.

As a means of estimating the degree of prosperity enjoyed by the several classes of the community the proportion of domestic servants employed is usually considered a safe guide. Taking the metropolis as a whole the proportion of domestic servants of both sexes is rather less than one servant to four houses. The proportion to 100 separate houses varies in the metropolitan boroughs from 5·7 in Shoreditch and in Bethnal Green to 65·8 in Westminster, 80·0 in Kensington, and 81·4 in Hampstead.

A very full description is given in the report of the occupations followed by foreigners now resident in London who at the date of the census numbered more than 135,000. Of these, not fewer than 54,000 in round numbers, or 40 per cent., were enumerated in the borough of Stepney, of the population of which borough foreigners constitute more than 18 per cent.

The number of persons in London who were returned as blind was 3556, almost identical with the number so returned at the previous census. Deaf and dumb persons numbered 2057, or 71 less than in the year 1891. Lunatics now number 3562, and imbecile or feeble-minded, 3496. The total of these is now 7058, against 5771 at the previous census. Of the 3556 blind persons 140 were below 10 years of age, and 2558 were retired or unoccupied, leaving about 858, or about one-quarter of the whole, engaged in work. Of these, 673 were males and the rest were females. Of the latter, 110 were unmarried and 75 were married or widowed. Those described as blind from childhood include 88 "occupied" males and 42 "occupied" females.

PROFESSIONAL UNION.

FROM time to time particulars of a dispute between the Teversal Colliery Club and their surgeon have been published. In view of recent developments we give the following brief *résumé* of the matter which has been furnished to us by the honorary secretary of the Midland Medical Union.

In 1901 Dr. W. C. Rainsbury of Skegby, who held a colliery appointment to the Teversal Colliery Club, commenced to charge the fee of 21*s.* for midwifery cases. This was an increase from 10*s.* 6*d.* In consequence Dr. Rainsbury was threatened with dismissal from his appointment. A deputation from the Midland Medical Union waited upon the club committee to point out the reasonableness of the fee and to ask them to give the matter their careful consideration. However, they sent Dr. Rainsbury an agreement to sign in which he should bind himself to charge a sum of 10*s.* 6*d.* for members' wives attended by him in their confinements. This he refused to do, and in consequence was served with three months' notice. The colliery club then advertised for a surgeon; the Union advertised warning men not to accept the post, and advertisements from the colliery club were not inserted in the medical journals. The club, however, managed to secure a medical man who agreed to accept the appointment; but from knowledge which came to the club committee a letter was sent to him asking him to come at once and inclosing him three months' notice; in consequence of this he never came to take up his appointment. The result was that after Dr. Rainsbury's notice expired on June 25th, 1901, the club was without a medical officer, and Dr. Rainsbury continued to attend the men and their families, but at private rates.

In November, 1901, the club secured the services of Dr. Alexander David Crawford who took Dr. Rainsbury's appointment on condition that he should also be given the appointment of a neighbouring practitioner under the same club committee—a practitioner who had been asked to accept Dr. Rainsbury's post and had refused. This practitioner (Dr. E. Mitchell of Sutton-in-Ashfield) was forthwith dismissed by the committee and Dr. Crawford introduced a partner—Mr. Robert James Farman—into Sutton-in-Ashfield to carry on that part of the work.

This step on the part of Dr. Crawford and his partner was taken after the case had been fully explained to them, and after the Midland Medical Union, acting on behalf of the local medical men, had begged Dr. Crawford to have nothing to do with the appointment. These two medical men are now carrying on the work for these collieries.

The Midland Medical Union wish to place this statement of facts before the profession generally and ask for expressions of opinion with regard to the action of Dr. Crawford and Mr. Farman.

The council of the Midland Medical Union at a meeting held in Nottingham on Jan. 17th, 1902, declared Dr. Crawford and Mr. Farman to be opposed to the objects and interests of the Union and by a previous resolution of this Union every member is pledged to abstain from giving such practitioners any professional assistance by consultation or otherwise.

Looking Back.

FROM

THE LANCET, *SUNDAY, FEB.* 1, 1824.

The case of C. A. DEMPSTER, *who swallowed a case-knife.*

This unfortunate man died at Middlewick on Friday the 14th, ult. The public will recollect that in attempting some juggling tricks at Carlisle, he swallowed a table knife rather more than nine inches long, which remained in his stomach without exciting any very acute pain, or producing any serious consequence until within a few days of his death. He left Carlisle, with the intention of proceeding to London, where his mother resides, for the purpose of consulting Sir ASTLEY COOPER. During the journey to Manchester he suffered much pain from the jolting of the coach; when finding himself unable to bear the motion of the carriage, he embarked in a canal boat, but being taken very ill in the boat, he was prevented from pursuing his journey further than Middlewick. This case having excited considerable interest in the public mind as also in that of the profession, it may be proper to observe that the body was opened the day after his death, and the knife found in the stomach, which with the other viscera was in a state of inflammation and gangrene. The handle of the knife (which was of bone) was dissolved, as likewise a considerable portion of the blade; so powerful indeed had the knife been acted upon by the juices of the stomach, as to impress very forcibly on the minds of the medical men who opened the body, a belief that had the man continued at

Carlisle, and been kept in a quiet state, the whole of the knife might have been dissolved, and the case terminated favourably. The public prints having stated that Sir ASTLEY COOPER had recommended an operation for extracting the knife, we deem it but justice to the above mentioned gentlemen to state, that they saw the man only about three hours prior to his death, when inflammation and mortification had already commenced.—*Chester Courant.*

VITAL STATISTICS.

VACCINATION AND SMALL-POX.

THE Registrar-General's return for the current week contains a table of the deaths from small-pox which have been registered from the beginning of the present epidemic down to Jan. 11th, 1902. The table shows that out of those children and young persons under 20 years in the population of London who were not protected by vaccination, 100 have recently died from small-pox; whilst only four deaths from that disease have occurred among those of the same ages who were ascertained to have been vaccinated in infancy. There are also five cases in which the evidence was insufficient to warrant a definite statement as to vaccination. If the extreme course be taken of counting these five cases with the vaccinated, the figures will show at least 100 deaths from small-pox among the unvaccinated section of the population under 20 years of age, and at most nine deaths among the vaccinated section at the same ages.

HEALTH OF ENGLISH TOWNS.

THE number of towns dealt with in the Registrar-General's weekly return has now been increased to 76 by the addition of Bournemouth, which has been recently extended, and, as at present constituted, contained a population exceeding 50,000 at the recent census. In these 76 large English towns, the aggregate population of which is estimated to be 14,862,003 persons in the middle of the year, 8394 births and 5048 deaths were registered during the week ending Jan. 25th. The annual rate of mortality, which had been 20·1, 18·2, and 17·7 per 1000 in the three preceding weeks, was again 17·7 last week. In London the death-rate was 17·9 per 1000, while it averaged 17·6 in the 75 other large towns. The lowest death-rates in these towns were 6·2 in Walthamstow, 7·1 in Barrow-in-Furness, 7·5 in East Ham, 10·2 in Bournemouth, 10·3 in Derby, 10·8 in Ipswich, 11·2 in Rotherham, and 11·3 in Burton-upon-Trent; the highest rates were 22·0 in Preston, 23·3 in Aston Manor, 23·6 in Liverpool and in Rhondda, 24·1 in Swansea, 26·2 in Stockton-on-Tees, 27·3 in Merthyr Tydfil, and 30·3 in York. The 5048 deaths in these towns last week included 512 which were referred to the principal zymotic diseases, against 482 and 534 in the two preceding weeks; of these 115 resulted from measles, 112 from whooping-cough, 100 from diphtheria, 64 from scarlet fever, 50 from diarrhœa, 38 from small-pox, and 33 from "fever" (principally enteric). No death from any of these diseases occurred in Bournemouth, Burton-on-Trent, Walsall, or Barrow-in-Furness; in the other towns they caused the lowest death-rates in Tottenham, Portsmouth, Derby, Halifax, and Swansea, and the highest rates in Willesden, Handsworth, St. Helens, Preston, Middlesbrough, Stockton-on-Tees, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Handsworth, St. Helens, Preston, Rotherham, and Merthyr Tydfil; from scarlet fever in Leyton, St. Helens, and Middlesbrough; from diphtheria in Willesden, Walthamstow, Reading, Northampton, Oldham, Burnley, and West Hartlepool; from whooping cough in Devonport, Leeds, Stockton-on-Tees, and Rhondda; and from "fever" in Bootle, York, and Middlesbrough. 34 fatal cases of small-pox were registered in London, and one each in Willesden, Tottenham, Leyton, and Reading, but not one in any other of the 76 large towns. There were 870 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, Jan. 25th, against 754, 873, and 877 at the end of the three preceding weeks; 203 new cases were admitted during the week, against 261, 306, and 213 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2987, 2864, and 2760 at the end of the three preceding weeks, had further declined to 2658 on Saturday last; 299 new cases were admitted during the week, against 313, 250, and 288 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 452, 366, and 307 in the three preceding weeks, rose again last week to 357, but were 144 below the corrected average. The causes of 55, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Bradford, Leeds, Newcastle, and 45 other smaller towns; the largest proportions of uncertified deaths were registered in Handsworth, Birmingham, Liverpool, Warrington, Blackburn, Preston, Sheffield, Middlesbrough, Stockton-on-Tees, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·6 and 20·8 per 1000 in the two preceding weeks, declined again to 20·3 per 1000 during the week ending Jan. 25th, but exceeded by 2·6 the mean rate during the same period in the 76 large English towns. Among the Scotch towns the death-rates ranged from 11·2 in Leith and 18·2 in Greenock to 21·9 in Perth and 22·1 in Glasgow. The 656 deaths in these towns included 31 which were referred to measles, 20 to diarrhœa, 13 to whooping-cough, five to diphtheria, four to scarlet fever, and three to "fever." In all 76 deaths resulted from these principal zymotic diseases last week, against 56 and 63 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·4 per 1000, which was 0·6 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 23 in each of the two preceding weeks, increased last week to 31, of which 23 were registered in Glasgow and six in Dundee. The deaths from diarrhœa, which had been 19 and 13 in the two preceding weeks, rose again to 20 last week, and included 13 in Glasgow and four in Edinburgh. The fatal cases of whooping-cough, which had been five and 11 in the two preceding weeks, further rose last week to 13, of which 10 occurred in Glasgow. The deaths from diphtheria, which had been five, four, and six in the three preceding weeks, decreased again to five last week, and included three in Aberdeen. The fatal cases of scarlet fever, which had been two and six in the two preceding weeks, declined again last week to four, of which two occurred in Greenock. The three deaths from "fever," showed a slight decline from the number in the preceding week, and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 142 and 176 in the two preceding weeks, declined again last week to 128, and were 17 below the number in the corresponding period of last year. The causes of 15, or more than 2 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·4, 25·0, and 23·4 per 1000 in the three preceding weeks, further declined to 20·9 per 1000 during the week ending Jan. 25th. During the past four weeks the death-rate has averaged 24·7 per 1000, the rates during the same period being 18·8 in London and 19·7 in Edinburgh. The 152 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 18 from the number in the preceding week, and included eight which were referred to the principal zymotic diseases, against nine, 10, and six in the three preceding weeks; of these four resulted from diarrhœa, two from whooping-cough, two from "fever," and one from measles. These nine deaths were equal to an annual rate of 1·1 per 1000, the zymotic death-rates during the same period being 1·9 in London and 1·1 in Edinburgh. The fatal cases of diarrhœa, which had been three, one, and two in the three preceding weeks, further rose last week to four. The mortality from "fever" also showed a slight increase over that registered in the preceding week. The 152 deaths in Dublin last week included 21 of children under one year of age and 48 of persons aged upwards of 60 years; these numbers were respectively 18 and four below those recorded in the preceding week. Four inquest cases and five deaths from violence were registered; and 42, or nearly a third, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Staff Surgeons.—A. G. Wildey to the *Illustrious*, and T. J. Crowley to the *Revenge*. Surgeons.—R. St. G. S. Bond to the *Assaye*; A. J. Laurie to the *Highflyer*, additional; R. M. Richards to the *Jason*; G. G. Borrett to the *Pylades*, additional; J. O'Hea to the *Minerva*; and L. Lindop to the *Camperdown*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel A. M. Davies is ordered to Portland to investigate the recurrence of enteric fever among the troops there.—Lieutenant H. W. Long is held in readiness for service in India.

IMPERIAL YEOMANRY.

Norfolk (King's Own): Surgeon-Captain J. F. Gordon Dill, from Hampshire Imperial Yeomanry, to be Surgeon-Captain.

VOLUNTEER CORPS.

Royal Garrison Artillery: 1st City of London: Surgeon-Captain A. Allport resigns his commission. 1st Worcestershire: George Herbert Rutter to be Surgeon-Lieutenant. *Royal Engineers*: 2nd Cheshire (Railway): Surgeon-Lieutenant-Colonel J. Atkinson retires under paragraph 111 Volunteer Regulations, with permission to retain his rank and to wear the uniform of the corps on retirement. *Rifle*: 1st Roxburgh and Selkirk (the Border): Surgeon-Lieutenant W. Doig to be Surgeon-Captain. 1st (City of Dundee) Volunteer Battalion, the Black Watch (Royal Highlanders): Robert Thornton to be Surgeon-Lieutenant. 7th (Clackmannan and Kinross) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant G. T. Sinclair resigns his commission.

SOUTH AFRICAN WAR NOTES.

Civil Surgeons Penn and Bensusan were both reported to be seriously ill at Graff Reinet on Jan. 24th.

SOUTH AFRICAN REWARDS.

Lieutenant John Macfarlane Sloan, R.A.M.C., has been appointed to the Distinguished Service Order for devotion to duty at Bakenlaagte.

SOUTH AFRICAN AFFAIRS.

WHAT with the increased pace at which the "wearing-down" process has been going on of late among the Boer forces in the field and the general belief that great efforts will be made to bring the war in South Africa to an end before the King's coronation occurs, a more hopeful tone seems to prevail. Mr. Balfour's very guarded announcement in the House of Commons that a communication had been received from the Dutch Government came somewhat as a surprise. This announcement, together with other signs of failing power and resolution on the part of the Boers, has been seized upon as indicating that their cause is tottering to its fall. But in the absence of any Boer Government or of anyone armed with the requisite authority to speak on its behalf it is difficult to see how the British Government is to take any steps, and it would be premature to form any opinion as to whether the Dutch note will be followed by any result. In the meantime there is an increased activity on the part of the various British columns in the field; forced marches with fighting on a small scale are taking place in numerous directions.

Our troops have of late been subjected to great exposure and much fatigue. There has been much heavy rain and there is still a good deal of sickness from enteric fever, dysentery, and diseases incidental to field service under such conditions.

It probably did not escape the attention of our readers that in the debate on the war raised in the House of Lords by the Earl of Wemyss on Jan. 27th the Army Medical Service came in for its share of attention. The strictures of Lord Tweedmouth on the shortcomings of the Government in its conduct of the war led Lord Raglan, in replying to them, to speak among other things in highly favourable terms of the services of the medical department and its officers. What Lord Raglan said is somewhat differently reported in different journals, but all agree in stating that he spoke in eulogistic terms of the work that had been done. As regards the alleged deficiency of the army medical service, it had, he said, been agreed on all sides at the beginning of the war that the effective number of men that should be sent out was about 70,000, and considering that they had subsequently to deal with the wants of 200,000 men the efforts made by the army medical service could hardly under the circumstances have been surpassed. Lord Raglan at the same time added that he fully recognised the services rendered to the army and to the Boers and the natives by the voluntary associations which supplemented the efforts of the army medical staff. It will be seen that all we have contended for is officially admitted by Lord Raglan. The late Director-General was obviously not responsible for the fact that his department was, and for years had been, an undermanned department; but he nevertheless sent out all the necessary medical staff and hospital equipment which he was called upon to provide for the force originally fixed upon by the military authorities and War Office. He had no power to do more than was thought necessary at the time.

It is stated that scarlet fever has broken out on board the training ship *Impregnable* at Devonport. There are some 1250 boys on board and 100 of these have already been sent to the Royal Naval Hospital, Stonehouse.

Correspondence.

"Audi alteram partem."

WHO DISCOVERED SERUM DIAGNOSIS?

To the Editors of THE LANCET.

SIRS,—I was glad to hear Professor Gruber declare himself at his first Harben Lecture, delivered at King's College on Jan. 13th, on the question of priority in connexion with serum diagnosis. If I remember his words aright he said that he was most surprised to find people in this country giving the credit for the discovery of serum diagnosis to a foreigner when this credit really belongs chiefly to two of our own countrymen—namely, Dr. H. E. Durham and Dr. A. S. Grünbaum. The history of the discovery appears to be as follows. After some preliminary observations by Pfeiffer and Bordet, Gruber and Durham, in 1895, ascertained by extensive and careful experiments the fundamental fact that immune serum can agglutinate the bacteria concerned. This was undoubtedly the fundamental discovery upon which serum diagnosis rests and it now became necessary to apply it to the cases of special diseases. The first application was made by Dr. Grünbaum in March, 1896. Dr. Grünbaum was at the time working in Gruber's laboratory in Vienna. He applied the reaction to several cases of typhoid fever obtained from Nothnagel's clinic and obtained positive and genuine results. The first test was made on March 14th on a case of typhoid fever of 27 days' duration; the second was obtained on March 22nd on a case of typhoid fever of 11 days' duration; and the third on March 23rd on a case of 17 days' duration. All these were positive; and numerous control experiments made at the same time sufficed to establish the utility of serum diagnosis in typhoid fever and also to demonstrate the feasibility of using serum in large dilutions. Unfortunately, no more cases were available in Vienna after the third case just referred to until the following June. Meantime, on April 9th Professor Gruber attended a medical congress at Wiesbaden and announced there that positive agglutination results might be obtained by the serum of convalescent cases of typhoid fever. This announcement was made very briefly and did not mention Dr. Grünbaum's or any other person's name. Owing to the continued paucity of cases and to the wish of Professor Gruber and Dr. Grünbaum not to publish the discovery until more material had been collected no further record was put before the profession. Suddenly, however, Professor F. Widal described before the Société Médicale des Hôpitaux, Paris, some successful agglutinations by serum from typhoid patients. This was followed by a succession of papers by Professor Widal reporting many more successful cases; and the result of these publications was that Professor Widal has obtained throughout the world the credit for having discovered serum diagnosis. Owing to continued paucity of cases of typhoid fever in Vienna and to other unavoidable causes Dr. Grünbaum was not able to publish his first paper until September, 1896.

It is clear from this history, which cannot be disputed, that Professor Gruber and Dr. Durham (and perhaps Bordet)

made the fundamental discovery upon which serum diagnosis rests, and that Dr. Grünbaum performed the first actual agglutination by means of human typhoid serum in March, 1896. That he really did so has been certified to by the best authorities—namely, by Gruber and by Nothnagel and Mannaberg.[1] Lastly, it is equally evident that Professor Widal did not publish his first results until some months after Dr. Grünbaum's success had been obtained and published by Professor Gruber.

In the *Annales Pasteur*, 1897, p. 670, Professor Widal, in discussing this question, has endeavoured to maintain that as his first publication appeared before the first publication of Dr. Grünbaum, the priority, therefore, belongs to him (Professor Widal), on the ground that priority in discovery goes with priority in publication. Evidently, however, this claim cannot be admitted, because it is not correct to say that priority in discovery goes with priority in publication, since priority in discovery is open to being established by all the rules of evidence which hold in regard to all matters in which evidence is considered. By the evidence of Gruber, Nothnagel, and Mannaberg, to whom the facts were well known, Dr. Grünbaum's work was done before Professor Widal's first publication, and therefore the profession is bound to consider Dr. Grünbaum as the original discoverer, or at least as a simultaneous one. It is necessary to add here that Professor Widal has absolutely refused to mention the date of his first successful agglutination, and therefore we may assume, in default of any evidence to the contrary, that his first agglutination was made just prior to his first publication—a view which is further suggested by the fact that Professor Widal evidently published his experiences as soon as they were made (his first paper was based on only six cases). Moreover, it is evident that Professor Widal may have quite easily obtained a hint, sufficing for the basis of the whole of his work, from Professor Gruber's statement at the Wiesbaden Conference. Professor Widal also maintains that Professor Gruber referred on that occasion only to agglutination with serum taken after convalescence and that he himself was the first to work with serum taken during the course of the disease. But Dr. Grünbaum's second and third experiments were made on the eleventh and the seventeenth days of the disease—that is, during its course; and it is evident that Professor Gruber's brief remark might be justifiably held to include this self-evident extension of the general principle. In my opinion Professor Widal's objections do not even touch the main contention in favour of Dr. Grünbaum—namely, that Dr. Grünbaum's first serum diagnoses were certainly carried out months before Professor Widal's first publication. The priority, therefore, rests with Dr. Grünbaum, or at the best Professor Widal can claim only to share the credit with him. Moreover, the work both of Dr. Grünbaum and Professor Widal was based on the fundamental researches of Professor Gruber and Dr. Durham. It is unjust, therefore, to talk of "Widal's test" as if he had made the entire discovery.

I venture to call attention to the matter once more because I see that this injustice continues to be committed in spite of all protests against it. As a rule, the victims of such mistakes have little or no means of redress. If they stand up for themselves they are accused of egotism or pretension; if not, they are forgotten. But the matter is not merely a personal one; the fact that the credit for years of important and honest work can be lost in a moment in this manner scarcely tends to encourage the cause of scientific research. It is not possible to conceive that we should be grateful for pathological discoveries; but we might endeavour to be just in regard to them. I am not making any attempt to minimise the valuable work of Professor Widal, but am writing only to call attention to the generous remarks of Professor Gruber and to the claims of those who cannot easily speak for themselves.

I am, Sirs, yours faithfully,

Liverpool, Jan. 23rd, 1902. RONALD ROSS.

THE SANATORIUM TREATMENT OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—The letter under the heading of "The Personal Factor in Tuberculosis" in THE LANCET of Dec. 28th, 1901, p. 1843, is far from encouraging to those of us who have been doing what we can to promote the sanatorium treatment of tuberculosis. Strong language has been used, for one finds the following expressions—"a national misfortune," "a world calamity," "absurd pretensions," "'cured' dying on all hands," "Abandon hope all ye that enter here" (viz., sanatoriums), besides others with which I need not burden you or your readers. I quite agree with Mr. J. C. R. Braine-Hartnell of the Cotswold Sanatorium who, with other experienced men, recommends prolonged treatment on the lines of the so-called "open-air treatment."

Our sanatoriums, if they are anything, are schools of hygiene; the principles there laid down are, in as far as they are common to the majority of the inmates, intended to be maintained more or less constantly. It is no wonder that some of those who have received most manifest benefit in a sanatorium should break down after their return to their homes, for, instead of observing the rules under which they have so greatly improved, they virtually abandon fresh air, surplus feeding, &c., and follow the manner of life which predisposed them to their primary attacks.

It seems doubtful whether your correspondent has ever spent a week in a properly conducted sanatorium. Had he done so he would have learned that the patients therein are not exposed to a bacillus-contaminated atmosphere, but that by night and by day the treated are breathing air far purer than that which is to be found in most of the sick rooms of Nottingham. Comparison is drawn between sanatoriums for tuberculosis and infectious diseases hospitals. The arrangements of these two kinds of institutions are totally different for the most part. I only refer to one in sanatoriums: the patients are segregated at night time and during the day they are seldom together unless in the open air. The reverse is the rule in fever and such like hospitals. Would your correspondent wish to do away with our hospitals for diphtheria and scarlet fever and to return to the old days when whole families were laid low with these infectious diseases because the first case was not removed from, it may be, the overcrowded room or house?

No, Sirs, we shall continue our works of sanitation, our isolation hospitals, and our sanatoriums, all on "common-sense" and scientific lines. Some day it may please God that we shall be able thereby to stamp out the most dangerous of our epidemic diseases. Mr. E. D. Marriott goes on to assert that want of cubic space and defective drainage are the causes of consumption. Doubtless both these conditions tend to the predisposition to, and aggravation of, tuberculosis, and patients flock to sanatoriums to escape from such insanitary surroundings. One great value of sanatoriums is that they are teaching the public the great importance of fresh air and other advantageous environment. Our hospitals, barracks, poorhouses, prisons, and other public institutions are still suffering not so much from want of cubic space as from lack of fresh air. Other diseases than those due to the tubercle bacilli would be benefited by the so-called "open-air treatment." It is very seldom necessary that a window in a sick-room or a hospital should be entirely shut. The remedy for low temperatures is not shutting out the fresh air, but the supply of warm air, extra clothing, and in many cases extra food.

Since I have been practising in the Italian Riviera I have grieved to see how apparently curable cases of tuberculosis have, to say the least, failed to improve because the virtues of "sanatorium treatment" have not been appreciated by at least the sufferer and I fear occasionally by the patient's medical adviser. Let the National Association for the Prevention of Tuberculosis pursue its beneficent mission, keeping well in view the opening of the "windows of *earth*," of cottage and palace alike, and thereby will come in "a blessing that there shall not be room enough to receive it."

I am, Sirs, yours faithfuly,

San Remo, Italy, Jan. 15th, 1902. W. SOLTAU ECCLES.

THE DOSE AND LENGTH OF INCUBATION IN MEASLES AND VACCINATION.

To the Editors of THE LANCET.

SIRS,—On Christmas Eve a lady and her two children arrived at a country house for the holiday season. Their hostess seemed to have a heavy influenzal cold, but next morning she was manifestly in measles. The children were sent back to London, the mother remaining to

[1] THE LANCET, April 21st, 1900, p. 1169.

nurse her hostess. After 10 days this lady (the mother) felt so ill that she returned home and went straight to bed, carefully avoiding her children; and next day it was clear that she was beginning measles. The children, meanwhile, had been threatening the troublesome cough that might precede measles, but not until the fifteenth and seventeenth day after their exposure did they show manifest signs of measles. Now, it would seem that the extra dose received by the mother distinctly led to a shorter length of the incubation stage. Again in August and in the early days of September I was using lymph of the Jenner Institute (*not* the Jenner Institute of Preventive Medicine) which failed to take at all. Later, in the month of October, I found that the vaccine would take effect in a mild sort of way on the twelfth day, showing that there probably was but a very mild dose of the vaccine virus in the glycerine. I had always been able to prophesy that in revaccination one could look with certainty for the local reaction on the third or fifth day (at least this always happened when I used lymph from Dr. Renner's establishment). So I took to using Dr. Renner's lymph again and always find that I can guarantee a good pock-mark or an abortive one equally surely about from the third to the fifth day, showing, I suppose, that the dose is fairly equal.

These facts would seem to prove that if lymph is overglycerinated it is either inert or very slow in incubation, all which would show that there might be some standard of strength established by the authority of those who make lymph for the Government. For we non-public vaccinators are entirely dependent on the private companies who advertise their goods. They, on the other hand, deny all responsibility for the uncertainty of their lymph. I have lately revaccinated and caused to be revaccinated many who were done with Jenner lymph and find that 30 per cent. when done again with Dr. Renner's lymph give excellent vaccine vesicles. This shows how our unfortunate patients are entirely at the mercy of the trade supply in lymph.

I am, Sirs, yours faithfully,

Courtfield-road, S.W., Jan. 21st, 1902. J. KINGSTON BARTON.

EXCISION OF GASTRIC ULCER.

To the Editors of THE LANCET.

SIRS,—I notice that in THE LANCET of Jan. 25th, p. 275, you refer a correspondent signing himself "E. N. B." to a case of mine recorded in your issue of March 2nd, 1895, p. 544. As that case occurred early in the history of operation for perforated gastric ulcer and was my first experience of operating for it, will you allow me to say that in four or five subsequent cases (one of which was published in 1896) I have not thought it advisable to excise the ulcer before suturing? I think that perhaps your correspondent may find the information he seeks in the excellent lectures by Mr. A. W. Mayo Robson published in THE LANCET of March 10th (p. 671), 17th (p. 747), and 24th (p. 830), 1900, and in an address by Mr. Robson in THE LANCET of Feb. 9th, 1901, p. 375.

I am, Sirs, your obedient servant,

Brighton, Jan. 25th, 1902. R. F. JOWERS.

FIRST AID FOR PRIMARY HÆMORRHAGE: THE WRONG INSTRUCTION GIVEN TO AMBULANCE CLASSES. A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In my letter which appears in THE LANCET of Jan. 25th, p. 256, the words "severely burnt" have been omitted from the account of the infant who was carried over two miles to a hospital.

I am, Sirs, yours faithfully,

Plymouth, Jan. 25th, 1902. C. HAMILTON WHITEFORD.

FEEDING ON GOAT'S MILK.

To the Editors of THE LANCET.

SIRS,—If any of your readers have had experience of the suckling of children by goats I should be greatly obliged if they would let me benefit thereby. The child who has come under my care quite recently is four months old, and has been suckled since birth by a goat, taking at present four meals daily from the goat and two from the mother. The child is large, firm-fleshed, mottled, but has a scurfy patch covering the lower part of the forehead, the nose, and the left cheek. There is no irritability, flatulence, vomiting, or loss of weight. There has been a little diarrhœa which passed off without treatment; curds are frequently passed in the stools. There is no loss of weight. The udders of the goat are well cleaned before each meal and the animal is healthy.

Would it be wiser to advise a change in the method of feeding than to leave well alone?

I am, Sirs, yours faithfully,

Albareda 49, Seville, Jan. 21st, 1902. JOHN DALEBROOK.

HIGH FREQUENCY CURRENTS IN THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I trust that you will afford brief space for an indignant repudiation of certain sensational statements concerning the treatment of phthisis by currents of high frequency which have appeared in the columns of the daily press, and in which my name has been used to my great annoyance and entirely without my knowledge or consent.

On Jan. 23rd, as a matter of courtesy, I saw a representative of the *Daily Mail*, who called on me with an introduction from a well-known member of our profession, a personal friend, for the alleged purpose of reporting on the subject which had been dealt with in the Gresham lectures. I explained to him impersonally the *modus operandi* of the electrical treatment in question, allowing him to test for himself the physical properties of the current from an ordinary Oudin resonator which stands in my room without any adjuncts of elaborate finish, mystery, or impressiveness, and is indeed in all its surroundings eloquent of makeshift arrangements and purely experimental use. I pointed out that I personally was interested in the matter from a purely scientific point of view, and had had an extremely short and small acquaintance with its alleged therapeutic effects.

Before consenting to afford him any information I had obtained his assurance that my name should not be used at all in connexion with the matter, so that its use in the published paragraph is entirely unjustifiable and a grave breach of confidence.

I have written a letter to the *Daily Mail* pointing out my extreme annoyance, and I feel confident that those who know me and my work will at once see how I have been made an unsuspecting victim to the peculiar "principles" of modern sensational journalism.

I am, Sirs, yours faithfully,

Devonshire-street, W., Jan. 28th, 1902. T. J. BOKENHAM.

THE ROYAL UNITED HOSPITAL, BATH.—Mr. Arthur Roberts, the comedian, who was performing at the Theatre Royal, Bath, gave an entertainment at the Royal United Hospital, Bath, on Jan. 24th. Mr. Roberts was assisted by several members of his company and the performance was much appreciated by the patients.

THE ROYAL INSTITUTION.—The Friday evening discourse at the Royal Institution on Jan. 24th was delivered by Mr. H. G. Wells, the title of his address being "The Discovery of the Future." He thought that along certain lines and with certain limitations it was quite possible to forecast the future and that the time for commencing investigations in this direction had, in fact, now arrived. In support of his arguments he referred to the calculation of planetary movements many years in advance of the actual occurrences, to the predictions of chemists as to the properties of bodies which were unknown at the time but have since been discovered, to the results of medical prognosis, and to the anticipations of palæontologists at first founded on scanty data but afterwards verified when more abundant fossil remains came to light. The human race as at present existing was not, he said, the last stage in the evolution of the highest form of animal life, and speculation as to what type of creature would succeed man on the earth was exceedingly interesting. He believed that within the next few hundred years the human mind would undergo great development and would accomplish things compared with which all its achievements in the past would be only as the dawn before the day.

THE DESTRUCTOR NUISANCE AT TORQUAY.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 264.)

TESTIMONY OF RESIDENTS.—THE ILL-HEALTH AND ACUTE SYMPTOMS ATTRIBUTED TO THE DESTRUCTOR.—NUMEROUS AND BITTER COMPLAINTS.

HAVING given the history of the circumstances which resulted in the construction of a destructor at Torquay and the unfortunate selection of the site which it now occupies, it is necessary to consider the complaints that have been made. It was, as already stated, in September, 1898, that the burning of the town refuse commenced. Individual complaints soon followed, but it took some time before the dissatisfied inhabitants began to organise more systematic protests. By the summer of 1900 the agitation against the destructor had assumed formidable dimensions. If reference is made to the local papers it will be found that the matter was discussed by the Marychurch District Council, which was at that time a separate local authority. Mr. G. M. Winter, M.R.C.S. Eng., then read to the council a memorial signed by from 30 to 40 ratepayers and occupiers of St. Margaret-road, St. Marychurch-road, Westhill, and Daison. This memorial stated that :—

> In consequence of the injurious effects of the smoke, fumes, and gases ejected from the destructor, your petitioners respectfully call the attention of the district council to the serious effects upon personal property caused by the said destructor, and request them to take steps effectually to prevent the nuisance.

Mr. Winter, according to the newspaper reports published at the time, is represented to have urged upon the council, of which he was a member, that this was a serious complaint. The matter had been brought before it during the previous month of September and representations were then made to the Torquay Council. A reply was received in the following month of November to the effect that certain alterations would be made which would effectually stop the nuisance. These alterations, however, had not secured the desired result. Mr. Winter then protested that this was in no wise a mere sentimental grievance and he regretted to notice that the officials at Torquay strove to belittle the complaints they had received. At a recent meeting of officials connected with sanitary departments which had been held at Dartmouth they had even stated that the destructor worked well and that no complaints had been received. Such a statement was not justified, for the Marychurch Council had complained, and Mr. Winter went on to say that the fumes from the destructor affected the health and comfort of the inhabitants. The smell was foul and nauseating. There was no doubt that the destructor was placed in a ridiculous position. He added :—

> No one knowing anything about wind and gases would place such a thing in the bottom of a pit, where the wind could not possibly take the fumes away. Possibly the destructor was faultily constructed, or perhaps the fumes were not properly cremated. He had said sufficient, added to their own personal knowledge, to show that a nuisance existed, and a very serious one which affected many ratepayers. He would move: "That the St. Marychurch District Council, recognising the real nuisance emanating from the Torquay refuse destructor, regret that effectual means have not been taken to abate it after the communication of Sept. 26th last, and trust that the town council will at once take steps to do away with the nuisance and its attendant risk to health."
>
> Mr. C. Taylor seconded.
>
> The Chairman, Captain Hill Lowe, said the destructor was a very decided nuisance, and he was exceedingly glad that the matter had been brought forward.
>
> The motion was unanimously agreed to.

In consequence of the adoption of the above resolution a deputation waited on the Torquay Town Council and were informed that the council would construct a Jones's patent coke cremator in the main flue so as to render the fumes and gases innocuous. The *Torquay Directory and South Devon Journal* of Sept. 5th, 1900, reports the discussion held by the council in regard to this deputation. A letter was read from Mrs. Ridley, of Vane Hill, complaining of the smells from the destructor, but the borough surveyor stated that on the night complained of the destructor was not at work. Councillor Pike said that he lived within 150 yards of the destructor and had never smelt it, and that sentiment was at the bottom of all the complaints. Alderman Kerswill named people living near who had never smelt anything objectionable; but Councillor F. J. Crocker admitted that there had been cause for complaint, and the discussion was brought to a close by the Mayor who declared that the cremator which they were about to build would destroy the last germ of every reasonable complaint. The local paper, after giving these details, comments on this discussion in the following terms :—

> An even worse feature was the frequent attempt to pour ridicule upon those who have addressed complaints either to the council or the public press. A lady was several times held up to ridicule, and one member went so far as to speak of ratepayers who have been prominent in the agitation about the destructor as lunatics. This sort of thing only brings the council into disrepute and is to be regretted by all who value the good name of the borough. By their action the council admit that there has been cause for complaint. Then why throw dust in the eyes of the public? And why insult those who have felt compelled to call attention to the matter?

Shortly after this the boundaries of Torquay were extended so as to include the districts of Marychurch and Chelston. Consequently the Marychurch District Council, which it has been seen was a centre of agitation against the destructor, ceased to exist, and Mr. Winter, who had been a leader in this movement, became a member of the Torquay Town Council and was thus jointly responsible with his fellow members of the council for the destructor. There were two good reasons to hope that the nuisance would be abated: firstly, the construction of the cremator, and, secondly, the fact, which has been already explained, that with the addition of a population of 12,000 there would now be refuse enough to keep the destructor working at night as well as in the day, as it was argued that the nuisance arose through the cooling down of the cells when the fires were not kept fully alight. That these hopes were not realised is, I think, fully demonstrated by the evidence I personally was able to collect.

A portion of the Marychurch-road passes over one of the hills that dominate the destructor. Here my first visit was to Dr. H. Humphreys who has taken a leading part in the agitation against the destructor. To him the matter is of personal as well as of general interest. He would long since have left the district, but having purchased the freehold of his house he is compelled to remain. He could not sell his house except at a considerable loss, for he conceives that it would not be honest to do so without warning the intending purchaser of the nuisance to which he would be exposed. Some of his neighbours, however, have been less scrupulous. After taking part in the agitation against the destructor they have succeeded in selling or letting their houses and are now silent. Others are seeking to follow this example or to let out some of their rooms to lodgers and are therefore also anxious not to say too much about this grievance. But there still remain a considerable number of persons who have nothing to lose and much to gain by bringing such public pressure to bear as will result in the abolition of the nuisance. Dr. Humphreys explained that the odour varied considerably. Sometimes it seemed like the smell of a tallow candle, at other times it was more like that of a burnt shoe. It was stifling, caused a choking sensation, and there was an irritation of the throat as if produced by fine dust. The windows were dirtier than they used to be before the destructor was built. When the smell had thoroughly penetrated a room it hung about for hours after the wind had changed and the fumes of the destructor were blown in another direction. The odour was of such a penetrating character that it had been noticed at a great distance, even out at sea off Petty Tor. Mrs. Humphreys complained of a nasty taste in her mouth, of nausea followed by salivation, and of sore or spongy gums. The family were often driven out of their garden by the odour and obliged to take refuge indoors and to shut all the windows, which was very unpleasant on a hot summer day.

My next visit was to neighbours of Dr. Humphreys, the Misses Tappers, whose house overlooks the valley in which the destructor is built. They explained that they were away when the destructor was erected and on their return they were surprised to find their house invaded by strange odours. Later, when the summer came, these odours were so strong that if the wind came from the direction of the destructor they would be obliged to get up in the night so as to shut all the windows. At the risk of suffocating themselves they even shut down the dampers of their stove and closed up their fireplaces. They complained that the odour made them feel sick and provoked headaches. A lady invalid who could get fresh air only in the garden was on these occasions obliged to remain indoors. They had not only felt a sensation of nausea but this had produced

actual vomiting. In the Shirburn-road Mrs. Hill told me that she slept in a little house-boat on the Dart so as to escape the fumes and only came up to her house so as to attend to the fruit and other matters. When at home she lost her appetite and suffered from dryness and irritation of the throat. The smell seemed to her like the burning of old shoes; the air felt oppressed and as if there was not enough of it. This gave Mrs. Hill a pain that commenced at the back of the head and then spread to the front and especially over the eyebrows. Mr. Hill, being absent when I called, sent me a written statement in which he says that the odour, "especially at night, is absolutely unbearable. The smell is peculiar and quite unmistakeable. It resembles somewhat that which would be caused by a smouldering greasy rag in a small confined room in which there was also present a bucketful of coke fire and a handful of brass chips being dissolved in aquafortis." Returning home late at night from sea he found the atmosphere about his house "so dreadful" that he doubted if he could exist in it till the next morning. "In fact, my wife and I have often passed many nights on board of our yacht in the harbour between our long cruises rather than return home and be poisoned." Mr. Hill adds: "It is interesting to note that while there is apparently very little brown smoke issuing from the destructor stack when viewed from the shore, yet from the sea at a distance of a few miles, when the destructor can be seen against the dark background of the hills, there always appears an impalpable blue vapour which extends for miles, tending ever downwards until it merges into the thin haze which is always present more or less in the valleys of the town if the wind is in that direction."

Miss Leney of Bronshill-road explained that at first she did not notice the smell very much, but it was very bad in the winter of 1900 and in April and May. The previous year Miss Leney was away at that time. The odour made her retch and produced pains in the abdominal region. On one occasion she awoke at 5 A.M. with a sensation of swelling in her mouth. It was necessary to close all the windows and her sister was nearly sick. Miss Leney soon felt so depressed and anæmic that she consulted her medical attendant, with the result that she determined to leave Torquay for a while, and then she speedily recovered. This was all the more distressing as four years ago Miss Leney bought her present house and came to live at Torquay on account of her health, and at first the place agreed with her very well. Now she can only keep herself in health by occasionally leaving Torquay. Last August when entertaining friends in her garden all the guests had to rush indoors and shut the windows in spite of the heat on account of the odour that came upon them. Formerly they would live in their garden up to 10 o'clock in the evening and this was the chief charm and benefit of the place. Now they had to go indoors and shut all the windows. Some persons, I was told, say they can notice the destructor smell when they wash their faces if the water is taken from a cistern placed in an exposed position.

The owner of a little shop in the Marychurch-road told me that at times she felt inclined to tie a handkerchief across her face. Many of her customers complained of the smell and inquired as to its cause. It was generally worse in the evening and produced a sensation of sickness. Entering another shop close by I heard much the same complaint. Other shopkeepers in this neighbourhood, either because they are less sensitive or because they fear to injure their business interests, strive to belittle the grievance, and some even declare that they do not notice the smell at all. But Mr. Taylor, who lives in the same road, stated that he had seen people going about holding handkerchiefs to their noses, and that on one particular Wednesday the odour was so bad that several people declared that they would have to leave. Several visitors lodging in the neighbourhood had got up in the night thinking there was a fire or that the drains were out of order, and had to be pacified by their landlady. Two persons living in Sudbury-terrace stated that they had to bar their doors and windows in the hope of keeping the smell out. A medical practitioner described the smoke as of three colours, black, brown, and pearl-grey. It made him sick, ill, and cross, and, he added, "we doctors have quite enough to irritate us without that."

Mr. H. Bedford of Shirburn-road called on me and also sent me a written statement. This gentleman was so much affected that he had appealed to the Local Government Board offering to bear witness and to be medically examined. "I am described," says Mr. Bedford, "by the medical men I have consulted as physically strong and without any organic disease and have been advised by them that my only remedy is to leave the neighbourhood." When possible he had done so and his symptoms gradually subsided, but returned again when he came back to Torquay. These symptoms, Mr. Bedford writes, are constant nausea, giddiness, and headache, with darting pains following on the breathing of the fumes. When there is no odour he is oppressed with a nervous dread lest it should return. He complains further of swollen lips, a bearing-down sensation in the legs, a sense of suffocation, and general physical prostration. Mrs. Bedford, however, though living in the same house, is not so sensitive. This lady is inconvenienced but feels no acute symptoms. Another complainant, Mr. Wilson, who lives at Marychurch, told me that he had spent the greater part of his life in Canada where he had practical experience of the malodorous skunk, but he thought that the fumes of the Torquay destructor were worse. He was convinced also that this odour did not readily mix with the atmosphere. Thus, when the wind changed and the air became pure again he found that after opening his doors and windows the smell was still perceptible in the corners of his rooms. If this is correct it is important, for it would show that the fumes come in a comparatively compact volume instead of being diluted by expansion. They gave Mr. Wilson pains in the head, temples, and throat. In her youth Mrs. Wilson had been struck by lightning and this had deprived her of her sense of smell, but she felt the fumes in her throat and they produced a sense of sickness. Mr. Heavens related that he remembered the old refuse deposit near Windmill Hill, and the nuisance caused by the rats, especially in the neighbourhood of the racecourse. But it was easier to keep the rats away than the fumes of the destructor, and he was obliged to keep his windows shut in the hot summer days. Following upon an attack of typhoid fever his sister had suffered greatly from indigestion; but when she went to stay with some friends living near the Bristol Channel she felt much better. On her return to Torquay, however, a relapse occurred. Her medical attendant treated her for dyspepsia, but still she could not recover her appetite. At last she went to London and resided at Balham. In two days she recovered and was quite well again. Torquay is supposed to be a health resort and yet here is a case of a patient who only recovers on going to London. A neighbouring family named Bolton gave notice and left their house in consequence of the nuisance, but most of the residents are leaseholders or freeholders and cannot get away. It used to be most enjoyable to sit out in the garden and benefit by the cool breezes coming from the vast expanse of moorlands that stretch north of Torquay. But as the destructor is in this direction when the wind blows from that quarter those persons who are susceptible dare not sit out in their gardens.

Finally, I went to the Roman Catholic convent at Marychurch. Here there are 70 orphans, eight servants, 26 young lady boarders, 30 sisters, and a day-school. The late lady superior had signed a petition against the destructor. Several of the sisters had complained and the lady superior who received me said she was under the impression that the general opinion was that the destructor was a serious nuisance. Had I continued these visits I could have collected much more evidence of the same description, but doubtless the above will suffice to give a general idea of the sort of complaints which were made. Of course, it will be said that they are grossly exaggerated, and in some instances wholly imaginary, and that other witnesses could be produced who have no complaint whatsoever to make. But it must be borne in mind that many persons are materially interested in striving to minimise the grievance. It is quite certain that there would never have been so much agitation, so many petitions presented, and so many complaints made if there had been no nuisance whatsoever. The very efforts made by the Torquay Town Council to alter and to improve the working of the destructor prove that the existence of a grievance is acknowledged. It remains for me to describe the latest modifications that have been made in the construction of the destructor. Then I will attempt to point out how the difficulties which have arisen at Torquay are of great interest to all towns which have to face the problem of refuse disposal.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A Rowton House.

A PRACTICAL attempt to solve the difficulties of the housing question among the poor of Birmingham has just been made by the promotion of a Rowton House scheme. It is announced that a company (the "Rowton Houses") has been formed with a capital of £50,000, in ordinary shares of £1 each, to further this object. It is stated in the prospectus that no contracts have been entered into, that none of the capital has been underwritten, and that no promotion money will be paid. "Rowton Houses," if carried out, will supply a great social want, especially among the artisan class, and if successful will materially relieve the pressure in the overcrowded parts of the city. At the same time it is estimated that it should be a financial success if the project is realised on the lines laid down by the promoters. One house will be first erected capable of accommodating 600 men, for which the charge will be 6*d*. per day; this includes, for the 24 hours, separate sleeping accommodation, the use of cooking ranges and appliances, dining-, smoking-, and reading-rooms, library, and foot-baths, unlimited use of hot and cold water, and, at nominal charges, the use of a locker and hot and cold baths. Surely this is a tempting programme to a working man, not only to wash and be clean but to enjoy comforts, and even luxuries, which it is at the present time beyond his power to possess. From a health point of view the scheme is deserving of all the encouragement and support that can be given to such a praiseworthy object.

Hospital for Children.

On Jan. 27th the annual meeting of the governors of this institution was held under the presidency of Mr C. E. Matthews. In the report which was read (the forty-first) it was stated that during the past year the number of in-patients treated had been 943, of out-patients 15,451, and of casualties 264. The death-rate calculated on the in-patients had been 7·08 per 1000 against 7·9 per 1000 on 1060 patients in the previous year. The expenditure had exceeded the income by £307. The chairman gave some interesting figures comparing the hospital with its position 40 years ago, stating that the governors now had £20,000 invested compared with nothing at that time. Various votes of thanks were passed.

Sanatorium for Consumption.

Some discussion has arisen in the county of Worcester as to the proposed plan to establish a sanatorium for consumption. A protest has been issued by the ratepayers of Malvern, in which they desire to submit to the county council that however desirable it may be to establish a sanatorium for the open-air treatment of consumption in Worcestershire—which in the absence of the information which ought to be, but is not, at the disposal of the ratepayers is neither affirmed nor disputed—no such charge as the maintenance of the sanatorium ought under any circumstances to fall upon the rates. It is considered that the object is a national rather than a local one, and the ratepayers' association deems that the expenses should not be allowed to fall upon the already overburdened ratepayer. From an argumentative point of view there is much to be said upon the question, but it would be well to bear in mind that the greatest good to the greatest number should influence public opinion and practical philanthropy.

An Interesting Adulteration.

"Self-raising flour" is a common form of advertisement in describing the qualities of flour sold at many shops and places. It is in itself a misnomer, the effervescent qualities being produced by the admixture of certain chemicals. In a case tried at the Dudley Police-court on Jan. 22nd the point was raised with regard to a sample taken of the flour in question which contained a quantity of potato starch and 63 grains per pound of tartaric acid with 26½ grains per pound of bicarbonate of soda. In proportion to the bicarbonate of soda the quantity of tartaric acid was double what was required. It was stated that the acid was really cream of tartar and the presence of potato starch was denied. Much expert evidence was called for the prosecution and for the defence, and this evidence, as usual, varied considerably. In view of this difference the bench decided that a sample should be sent to Somerset House and adjourned the case accordingly. The decision is looked forward to with interest.

Jan. 28th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Salford and Small-Pox.

AT their next meeting the Salford Town Council will be asked by the Health Committee to proceed at once with the building of the small-pox hospital. A site was secured several months ago at Drinkwater Park, and the scheme was submitted to the council, but held over for six months, as it was thought that Manchester might coöperate with Salford. However, Manchester did not agree to the financial proposals, and nothing has been really done by either council. Possibly the recrudescence and threatening aspect which small-pox has assumed may quicken the action of both councils in providing isolation hospitals.

Mid-Cheshire and Vaccination Charges.

With small-pox threatening the country at large it seems a curious time to complain of expenditure on vaccination; but at the meeting of the Northwich Board of Guardians on Jan. 24th "Mr. J. Holland appealed for retrenchment and economy." He said that the charges under the Vaccination Acts were £280 a year more than they were 10 years ago. He said that in the rural districts money was hard to get, &c., and "that steps should be taken to get rid of the present system." It is not clear from the report whether or not he would put a stop to vaccination, but as he wishes for economy he had better study the statistics of expenditure in those places that have suffered from even a slight invasion of that loathsome and dangerous disease small-pox.

The Royal Eye Hospital.

At the annual meeting of the subscribers to the Manchester Royal Eye Hospital held on Jan. 23rd, it was stated that at the hospital in Oxford-street 10,736 out-patients were admitted during the year, and 12,237 at St. John-street, a decrease of 1162 on the previous year. The in-patients at Oxford-street were 1334, being 22 fewer than in 1900. The excess of expenditure over income, which is so common with hospitals, was a little under £30. The Lord Mayor, who presided, said that the decrease in the number of patients treated looked as if the hospital had overtaken the requirements of the district. The accident cases showed an increase, and this had been going on for several years. Many of them were from bits of iron chippings getting into the eye, which is not to be wondered at, as there are so many iron and engineering works in the district. A pleasing instance of gratitude was mentioned at the meeting. More than 30 years ago a young man was treated at the hospital, and his elder brother, Mr. A. Greenhalgh, wrote to the board saying that he should never forget the kindness and courtesy of Dr. D. Little, who was then house surgeon, and that he had determined, when he had the ability, to subscribe to the funds of the institution, and he said, "I have now pleasure in sending you a cheque for £1000."

Poisonous Preservatives in Milk.

One of the inconveniences resulting from the advances in chemistry and the spread of knowledge is that various articles of food become more and more "suspect" from objectionable methods of applied science. Two milk-dealers were summoned at the instance of the Lancashire County Council, on Jan. 21st, to the county police-court, Strangeways, for selling "milk containing an injurious ingredient." It was found on analysis to contain one part of formaldehyde to 100,000 parts of milk. Mr. Wingate Saul, who prosecuted, said that the county council was very anxious that the practice of adding formaldehyde to milk should be stopped, and the committee appointed by the Local Government Board had advised its complete prohibition. Some people said that it might be hard on the retailer as it could not be proved that the wholesale dealer did not put the formaldehyde in. There was a suspicious point, however, against the retailers, if it were true, as Mr. Saul understood it to be, that travellers go round and sell formaldehyde to them, for it would scarcely be bought unless it was used. A fine of 20*s*. and costs was imposed in each case. Mr. Yates, K.C., the magistrate, asked if these

travellers could not be proceeded against for a misdemeanour for selling the drug, and Mr. Saul thought they could, "as it was an irritant poison."

The Christie Library.

The department of the Christie Library, Owens College, which has recently been enriched by the gift of Mr. Christie's own collection of books numbering nearly 7000, was formally opened by his brother, Mr. Hector Christie, on Jan. 22nd. It is the library of a scholar and though not appealing specially to busy practitioners passing and re-passing day by day, these may sometimes heave a sigh of regret that their avocations prevent them revelling in its treasures, like Professor Wilkins, who said that Mr. Christie's favourite study was the period of the Renaissance of classical learning. It is specially rich, among other treasures, in editions of Horace, the collection of which was one of Mr. Christie's hobbies.

The "Triplets."

The feeling in favour of the disintegration of the Victoria University grows apace. Liverpool and Yorkshire are in earnest as to each having a university of its own. Manchester would no doubt have remained content with the *status quo*, but now, seeing that the break-up is inevitable, she looks to the future without dismay. The graduates of the Victoria University, however, are disturbed as to the effect these impending changes may have upon the value of their degrees, and it would be unjust as well as unfortunate if they should suffer. Each of the disintegrating colleges is animated by the highest regard and affection for the others, with whom, however, it is impossible to remain associated any longer, and as the parting is to be accomplished with goodwill all round it is to be hoped that there may remain something of a "triple alliance."

A Park for Hyde.

The town of Hyde has just received the munificent and specially valuable free gift of a park of 30 acres of grass-land and shrubbery as a pleasure ground for all time. It was offered in the Diamond Jubilee year by the Misses Ashton, of Little Onn, Staffordshire, with certain conditions, however, that the corporation felt unable to accept. All difficulties have now, happily, been overcome and Hyde will have its park. There is a roomy mansion which would serve for a museum or art gallery. Anyone who knows the cheerless aspect of such manufacturing towns as Hyde, with their smoke-begrimed, mean-looking, dingy streets, will be able to appreciate the value of such an open space to the inhabitants. The gift is valued at £10,000, and perhaps the corporation may spend on it a like sum.

A Pest-house.

It may perhaps be worth while to put on record the following revolting and deplorable case as an illustration of the difficulties sometimes met with by those who are striving to safeguard the public health. At Barrow, on Jan. 17th, a man was sent to prison for four months for neglecting his eight children, and a man and wife living in the attic of the same house were each sentenced to two months' imprisonment. The first set of children were in a dreadfully filthy condition and practically starving. The house had only five rooms and 23 people lived in them. Mr. J. Settle, the medical officer, said that the small-pox epidemic broke out there. "The family were all unvaccinated, and owing to the outbreak of small-pox in the house the disease spread to no fewer than 30 people in the town, and it might just as easily have spread to 30,000. Through these people it was carried to Staffordshire and Blackburn. The authorities put new furniture and bedding into the house, but these were soon in as filthy a condition as those destroyed." What chance is there for children brought up in such surroundings?

Rainfall in 1901 at Longdendale and Thirlmere.

At Longdendale, from which valley the whole supply of water for Manchester came till 1894, the average daily contribution last year was 21,922,260 gallons. The total rainfall was 40·01 inches. From Thirlmere the average daily quantity was 8,353,284 gallons. This was more than that of previous years, but as the pipe has a capacity for the passage of 10,000,000 gallons daily it shows that there is serious leakage. The rainfall for the year at Thirlmere was 74·3 inches, as compared with an average of 86·2 for the same locality during the last 25 years. The sooner that Manchester completes the second pipe from Thirlmere the better.

Jan. 28th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Penmaenmawr Isolation Hospital.

NORTH WALES is not at all well provided with isolation hospital accommodation, though the Llandudno and Colwyn district councils have set a good example in this direction. The Urban District Council of Penmaenmawr, where there is a population of 3500 persons, has decided to erect a hospital on the mountain side at a cost of about £4000. There will be a separate administration block and two pavilions with accommodation for 12 patients, and two diseases can be treated at the same time.

Society of Medical Officers of Health.

At the meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health held at Bath on Jan. 22nd, Dr. W. H. Symons (medical officer of health of Bath) opened a discussion upon the Distribution of Phthisis. He stated that the death-rate from phthisis in Bath had fallen from 2·5 per 1000 in 1867 to 1·1 in 1900 and that while the death-rate of Bath among females had always been lower than that of England and Wales, among males the former had always exceeded that of the rest of the country. The advantages of sanitary surroundings were strikingly shown in a selected locality of Bath where a private improvement scheme was carried out nearly 20 years ago. During the 10 years prior to the demolition of the insanitary dwellings there were 84 deaths from consumption; in the next decade, when the improvements were being made, there were 31 deaths; and in the last 10 years there were only five deaths. When commenting upon the statement that the highest death-rate from phthisis among the counties of England and Wales was in Cardiganshire and the lowest in Monmouthshire and Rutland Mr. J. Tubb-Thomas (medical officer of health of Wiltshire and formerly of Rutland) expressed the opinion that the low mortality in Rutland was in great measure accounted for by the excellent sanitary condition of the county, and he said that phthisis only prevailed in those portions of the county where insanitary surroundings existed.

Small-pox in Bristol.

Bristol has been singularly free from small-pox during the past few months, although it is open to attack either through land-borne or sea-borne travellers. There was one case in December, 1901, the patient in question being discharged from the hospital ship in the middle of January, and a man who had lately come from Boston, Massachusetts, died from the disease on Jan. 7th, having only arrived in Bristol on the previous day. The isolation accommodation is quite insufficient for the needs of the city. The Novers Hill Hospital, which may be used for small-pox, is habitually full with convalescent scarlet fever patients from the Ham Green Hospital where extended accommodation is urgently required.

Notification of Pulmonary Tuberculosis.

The Llangyfelach Rural District Council has decided to invite notifications of cases of pulmonary tuberculosis occurring within the Llandilo Talybont portion of their district.

Inquests in Public-houses.

The standing joint committee for the county of Brecknock has given instructions that whenever practicable coroners' inquests shall be held elsewhere than in public-houses.

New Isolation Hospital in Somersetshire.

It is proposed to establish a joint isolation hospital for the borough of Chard, the urban districts of Crewkerne and Ilminster, and the rural district of Chard. The total population of these four districts is nearly 25,000.

Small-pox near Swansea.

Two more cases of small-pox have occurred which are traceable to the patient who travelled from London to South Wales at Christmas, making 10 cases altogether. One patient is in the Swansea Hospital and the other is at his home in Ystalyfera.

New Home for Inebriates.

The Carmarthenshire County Council has decided to take steps to establish a home for inebriates in conjunction with the counties of Cardigan and Pembroke. At the last census

there was a population in these three counties of 284,000 persons.

Cardiff Workhouse.

Hitherto the resident medical officer at the Cardiff Workhouse has acted as dispenser to the institution, but the board of guardians recently decided to appoint a separate officer. Among the nine applicants for the position were four ladies, one of whom has been elected to the post at a salary of £30 per annum.

Rabies in Pembrokeshire.

A case of rabies has occurred among the foxhounds belonging to the Pembrokeshire hunt. The pack is kenneled near Haverfordwest, and on Jan. 15th the dog affected attacked a group of persons in the town, tearing their clothes, and, in the case of a boy, aged nine years, inflicting a wound on his forehead. The dog, which was secured, died on Jan. 20th, when its brain was sent to the Brown Institution for examination. The boy went to Paris on Jan. 21st for treatment at the Pasteur Institute.

Duties of Poor-law Medical Officers.

At a recent meeting of the Helston Board of Guardians a discussion arose in reference to some of the medical officers neglecting to send to the meetings of the guardians their reports of attendances on pauper patients. Eventually one of the members gave notice of a motion that in contracts with the medical officers a clause should be inserted to the effect that the medical officers would be debited with a sum of money for each omission to send in their report. At the meeting on Jan. 18th the proposition was brought before the guardians, but the clerk expressed his belief that the Local Government Board would not sanction such a clause and the motion was not seconded.

Vaccination Prosecution.

At Truro Police-court on Jan. 20th a man was summoned for disobedience to an order made by the court for the vaccination of his child. Evidence showed that when the police attempted to enforce a warrant of distress the defendant locked the door and defied them. Eventually he was fined £1, and in addition was ordered to pay costs and advocates' fees or to undergo a month's imprisonment. He preferred the latter alternative, and becoming noisy was removed from the court, protesting that he was the victim of a conspiracy.

Jan. 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Royal Infirmary.

THE annual report of the Glasgow Royal Infirmary, which was issued on Jan. 25th, contains in addition to the usual statistics an allusion to the proposed reconstruction scheme which has for so long been in a state of suspended animation. A determination is expressed to adhere to the larger proposal to rebuild the entire hospital at an estimated cost of £250,000. As the sum already in hand amounts only to £80,000 a balance of £170,000 is still required. The managers explain that in view of the numerous other appeals which have been made to the public they have deemed it advisable to postpone their own claims, but they indicate that ere long the question will assume an active phase. The report contains an appreciative note of the services rendered by Dr. Moses Thomas, who retires from the position of superintendent after a tenure of office extending to 34 years. In the financial statement attention is drawn to the fact that the ordinary expenditure for the year exceeded the income by upwards of £10,000 and that the managers have been compelled to draw to this extent on the capital account.

Small-pox in Glasgow.

The total number of small-pox patients now in hospital is 58. Four new cases were notified on Jan. 26th.

Scottish University Students.

The annual conference of the Students' Representative Councils of the Scottish Universities has been held in Glasgow during the past week. Principal Story, in welcoming the members, made reference to the proposed rearrangement of the academic year, and described the proposal to substitute three terms in each year for the present prolonged session as one needing careful consideration by the students themselves; the question whether such a change was adapted to the circumstances of the students was one of vital importance. The Principal also alluded to the Carnegie bequest and stated that it was within his knowledge that applications had been made for the payment of fees by those whose circumstances rendered them altogether unsuitable for such assistance; he advocated the cultivation of a healthy public opinion on this point. Among the various subjects discussed by the conference was the reorganisation of the medical curriculum and a unanimous vote was recorded in favour of a rearrangement of certain of the subjects, of the institution of three terms of 11 weeks each instead of the present winter and summer sessions, and of the complete removal from the fifth year of all classes other than those involving clinical work. It was also decided to request the senates of the several universities to institute two final examinations for graduation in medicine in each year.—The Liberal students of the University of Glasgow have announced the name of the Right Hon. John Morley, M.P., as their candidate for the lord rectorship, the election to which will take place in November.

Jan. 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Dublin.

A MEETING of the Senate of Dublin University was held in Trinity College on Jan. 25th for the purpose of electing a representative for the "Classis Quarta" in the place of the late Dean of St. Patrick's Cathedral. Sir John William Moore and Mr. William Cotter Stubbs were nominated to fill the vacancy, and it was announced that ballot papers would be sent out as soon as possible.

Danger of Small-pox in Dublin.

A letter from Sir Charles Cameron, C.B., the medical superintendent officer of health of Dublin, has recently appeared in all the Dublin daily papers warning the public to take every possible precaution against attacks of the loathsome disease of small-pox, and earnestly requesting all who have not been revaccinated and who are over 12 years old "to have that trifling (as regards pain or inconvenience) operation performed on them as soon as possible." As already stated in THE LANCET, if small-pox should come to Dublin as an epidemic there exists no suitable place in which its victims could be treated, the recommendation of the Cadogan Commission, that an isolation hospital should be provided for it outside the city boundary, having proved inoperative.

The Nursing in Armagh Workhouse.

The Local Government Board has written to the Armagh Board of Guardians requesting them to comply with the terms of the order of Dec. 4th, 1901, and to appoint, as soon as practicable, a qualified nurse and two wardmaids for duty in the infirmary. The matter was, on Jan. 21st, at a meeting of the Armagh guardians, referred to the special nursing committee of the Board who are to report.

County Antrim Infirmary.

The friends in Lisburn of this most useful institution are making strenuous efforts for the coming bazaar and with this object a conversazione was held on Jan. 21st.

North of Ireland Branch of the British Medical Association.

The winter meeting of the North of Ireland Branch of the British Medical Association was held in the Belfast Museum on Jan. 23rd, the President, Dr. J. S. Darling, being in the chair. Mr. Robert Campbell read notes on the Operative Treatment of Hernia in Children and showed specimens illustrating the anatomy of spina bifida, talipes equino-varus, and genu recurvatum. Dr. J. McLiesh read notes of a case of Lymphatic Leukæmia with a condition of skin resembling pityriasis rubra, and showed a specimen of Pneumothorax lasting six months and one of Loculated Empyema. Mr. H. Norman Barnett read notes of two cases of Bubonic Plague occurring on Board Ship and showed photographs and microscopic slides illustrating his paper. Professor J. W. Byers and Professor T. Sinclair gave details of a case in which a Volvulus of the Sigmoid Flexure causing Intestinal Obstruction had been twice successfully relieved in the same patient at intervals of four years by abdominal section. Mr. G. L. St. George (Lisburn) showed two cases of Spina Bifida, both successfully treated, one by Morton's fluid and the other by excision. Dr. T. A. Vesey (Rostrevor) read notes

of a case of Pernicious Anæmia treated successfully by Anti-streptococcic Serum. Interesting discussions followed the reading of these communications.

Jan. 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Illness of Professor Duclaux.

PROFESSOR DUCLAUX, the Director of the Pasteur Institute, has just been struck down by an attack of hemiplegia. In the middle of a lecture he experienced a sensation of vertigo which gradually increased in severity. He sat down and, feeling himself getting worse little by little, wrote on a piece of paper the word "hemiplegia." He then lost consciousness and was taken to his home where he lay for many days in a very critical condition. At present, however, he seems to be on the high road to recovery. It is a curious coincidence that Pasteur himself fell a victim to the same malady when he was in the midst of his work on the diseases of silkworms. The research was finished by his pupils. For many months Pasteur was ill, and for the remainder of his life he was partially paralysed on the right side and could only write with difficulty. However, he lived for 25 years longer, dying eventually from broncho-pneumonia.

Milk Adulteration in Paris.

The daily press has just undertaken an active campaign against the custom of milk adulteration which has reached enormous proportions, and the various reporters of the different journals have brought to light some extraordinary facts which have created great excitement. Milk is adulterated everywhere—at the farm, by the wholesale agent who buys up milk from the different farms, then by the milkmen who take the cans from the railway-stations to the various retail dealers, and then by the retail dealers themselves in their shops. The most common method of adulteration is that of adding water, and, as the water comes from anywhere, say, from dirty streams or from ordinary public standpipes, it is not astonishing that milk has become the vehicle for the dispersion of a number of infectious diseases. During the night the reporters have seen milkmen stopping their vans at a public standpipe and drawing water from this and pouring it into the milk-can, while the vans carry various empty cans which can be filled up with the milk which is thus increased in bulk. Seals of wax or of lead put on the cans at the point of departure are but an illusory protection, for the milkmen have made false ones copied from the real ones, which they put on. Better still, from their point of view, so as to escape the surveillance exercised by policemen who look after every milk-van which stops at night near a public standpipe, the milkmen have organised a sort of syndicate, and have confederates posted at the corners of dark streets or in gateways. These confederates, as the van drives through, throw in receptacles full of water prepared beforehand which is mixed with the milk while the van continues its journey. The Municipal Chemical Laboratory, which looks after the analyses of food products consumed in Paris, has started an organisation of its own to supervise these frauds. Every night various chemists betake themselves to the railway-stations at Paris, board the railway vans on the arrival of the trains, and seize a certain number of samples either directly from the train itself or from the milk-vans which have already been loaded up. These samples are taken to the laboratory and analysed and legal proceedings are at once taken against the senders of any milk which is adulterated; but, as it is not possible for them to go to every station at once, the chemists and their assistants start every night from the Prefecture of Police and go to some particular station pointed out by the head of the laboratory. However, the syndicate of milkmen possesses a large number of accomplices who wait before the door of the Prefecture of Police, and as soon as the chemists start in their carriage, these agents rush off on bicycles to the station to be visited, and arriving before the chemists, warn the milkmen, so that the chemists find nothing but samples which are quite irreproachable. The authorities of the Municipal Laboratory are now going on another tack, and their chemists will start each evening at midnight from their own houses for a destination which has been pointed out to them by telephone at the moment of starting. But, despite every precaution, the number of samples found to be defective is enormous, and the reasons for this are many. The chief of these is the very inadequate penalties inflicted by the courts. Out of 700 samples of milk declared to be adulterated by the Municipal Laboratory the law took no note of 500, and those persons who were found guilty were sentenced to altogether insignificant penalties, such as a paltry fine of some 10 francs. The milkmen are well organised, and when any of their number is fined a whip round is made to pay the money. If after they have been fined several times they are sentenced to two or three days in prison the syndicate pays their wages during the time that they are in prison. When the prosecuted adulterator happens to be a large commercial firm the sentence is worked out by a manager with an annual salary whose sole business it is to go to prison on behalf of the incriminated society. He has a certain sum of money allotted to him during his time in prison and leads a comfortable existence which many poor people envy. When adulterators are not found guilty by the court it is generally on account of political influences, for the milkmen take care, with a view to protection, to act as electoral agents. Finally, the courts take no notice of frauds which are not exceedingly serious, and when, as a rule, the amount of adulteration is not quite double that which is allowed by the law. "Fraud" consists in the addition of water and in the existence of less than 38 grammes of fat to the litre; but the court, as a rule, takes no notice of any deficiency of fat until there is less fat than 20 to 25 grammes a litre, so that when the Municipal Laboratory says that any milk contains a deficiency of fat between 38 and 25 grammes per litre, its work is quite useless. The estimation of salts which used to be employed is quite insufficient, for the adulterators used to add not water but skimmed milk, and the estimation of fat itself is in no way a real check, for the adulterators took to adding margarine to the milk so as to bring up the proportion of fat. One paper, the *Echo de Paris*, has organised a competition with a view of discovering a simple apparatus by which any member of the public can test the milk supplied to him, for at present the Municipal Laboratory takes no less than 24 hours to report on a given sample. This competition is open up to May 15th to any French or foreign inventor and the prize of 5000 francs will be allotted by a jury of chemists, hygienists, and eminent medical men. The committee is already appointed and the president is Professor Brouardel.

Jan. 28th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Accident to Professor Virchow.

PROFESSOR VIRCHOW'S condition, which immediately after his accident was reported to be quite satisfactory, is apparently now not so good as might be desired. According to the *Berliner Klinische Wochenschrift* the subcutaneous hæmorrhage is nearly absorbed and callus has begun to develop; the state of the circulation and respiration is also said to be normal, but the patient does not sleep well. The surgeons in attendance have recommended him to abstain from work of any kind and from receiving visitors.

Pharmaceutical Chemists and Sick Clubs.

The conflict between the pharmacies and the united sick clubs of Berlin to which allusion has already been made in THE LANCET of May 18th, 1901, p. 1435, has not yet come to an end. The immediate cause of the dispute was a financial one, the clubs requiring a discount of 10 per cent. to be granted to them, but the real causes, as I have explained in the passage above referred to, are more deeply seated and depend on the somewhat obsolete laws relative to the pharmaceutical profession. Owing to the strong organisation of the pharmaceutical chemists it was generally believed that the boycott of the majority of pharmacies would be a failure. On the other hand, the organisation of the clubs and the *esprit de corps* of the working population to which the club members exclusively belong have been strong enough to maintain the boycott and even to extend it. For instance, the pharmacists some months ago discontinued the granting of credit to club members, so that they (the members) had to pay for their medicines at once. As the majority of the members were not always provided with sufficient ready money the pharmaceutical chemists hoped by this means to coerce the clubs, but the proprietors of the unlicensed drug-stores, who in this controversy hold the position of "tertius gaudens,"

and thus are interested in the continuance of the conflict, came to the assistance of the members. The system adopted was as follows. The compound medicines, the sale of which is by law exclusively reserved to the licensed pharmacies, were either purchased from them by the proprietors of the unlicensed drug-stores and the price afterwards recovered from the clubs, or money was advanced to the members who were thus enabled to buy what they wanted from the licensed pharmacies. The inconveniences are, of course, very great for all parties concerned, whether clubs, pharmacies, or medical officers. Attempts which have been made on several occasions to settle the question have hitherto been without success. The pharmacies are now willing to allow a discount, but they require that the club members shall cease to purchase from the unlicensed druggists—a stipulation which has caused negotiations to fail, because the clubs decline to forsake the unlicensed druggists who are their most useful allies in the campaign. It remains to be seen whether the Government, which has the control of pharmacies as well as of sick clubs, will interfere. There is at present but little hope of a voluntary agreement being arrived at.

"Christian Science" in Berlin.

The craze which has for some time been known as "Christian Science" in America and England has at length been imported into Germany. Several Berlin periodicals have announced that the apostles of Mrs. Eddy have arrived in Berlin and that they have already a fine practice, especially among the classes who, from want of knowledge of the elementary principles of natural science, have been, and will continue to be, victims of any clever impostor. It is stated that the Christian Science consultation rooms are frequented by the upper classes, the nobility included, and that at certain hours of the day many carriages may be seen waiting at the doors. The subject will be discussed in the municipal council because the believers in Christian Science use for their evening meetings the great hall of a municipal college. One of the members of the council has therefore asked the mayor and magistrates of Berlin whether they will take measures to prevent municipal premises from being used for such a purpose. The medical press is also devoting some space to the subject, and in the *Deutsche Medicinische Wochenschrift* Dr. Sobotta has drawn attention to the mischief worked by Eddyism in England and America, where the number of "the faithful" is now rapidly decreasing. Meanwhile orders have been given by the mayor that municipal buildings are no longer to be used for the holding of "Christian Science" meetings.

Rats and the Bacillus of Danysz.

Dr. Abel, a medical officer of the city of Hamburg, has published in the *Deutsche Medicinische Wochenschrift* an account of his attempts to destroy rats by means of the bacillus of Danysz. Some years ago Dr. Danysz of Paris discovered a bacillus which has been called the bacillus typhi murium (Danysz). It is strongly pathogenic for rats and, according to its discoverer, may be used instead of other poisons to kill these animals. Dr. Abel obtained cultures of it from Dr. Danysz himself, and administered portions of them in the laboratory to grey and white rats, the result being that the animals died in from six to 12 days. The necropsy showed enlargement of the spleen, swelling of Peyer's glands, partial necrosis of the liver, and the presence of the bacilli in all the organs. Other rats were then fed with the livers and spleens of the first series with an equally lethal effect. In this way the toxic action could be continued through six generations. The method was then practically used to destroy rats in some localities where they happened to be abundant, pieces of bread treated with cultures of the bacilli being laid down. The localities selected were the premises of the municipal institution for disinfecting, a large transatlantic steamer, stables accommodating from 30 to 40 horses, the depôt of the custom-house, and another large building used for storage purposes. The results presented considerable variety, being most effective in the stables where the rats completely disappeared for one and three-quarter years. In the steamer and in the stores there was no apparent effect, whilst in the custom-house and in the municipal establishment the number of rats was reported to have considerably decreased. It was remarkable that very few dead bodies of rats were found, even in the instances in which the most effect seemed to be produced. Dr. Abel considered that the method, though not invariably efficacious, was worthy of a trial, and that it might be valuable when plague was imminent and when rats had to be destroyed as much as possible.

Jan. 27th.

Obituary.

PROFESSOR HUGO VON ZIEMSSEN.

OUR Berlin correspondent writes:—Dr. Hugo von Ziemssen, professor of clinical medicine in Munich University and one of the most popular men in the city, died there on Jan. 20th. He was born in Greifswald, Pomerania, in 1829, and studied medicine at the universities of Würzburg, of Berlin, and of his native town, where he graduated in 1854. In 1856 he was recognised as *privat-docent* after having been an assistant at the Greifswald Medical Clinic. In 1863 he was appointed ordinary professor at Erlangen University and in 1874 at Munich University, where he remained till his death. His works are very numerous. When still in Greifswald he published essays on complications of measles, on diabetes, and on electricity in medicine. Afterwards at Erlangen and Munich he studied the cold water treatment of enteric fever, gastric ulcer, Bright's disease, &c. Considerations of space prevent an enumeration of all his works, as there were, in fact, few subjects connected with clinical medicine on which he did not write. He was also the editor of two great encyclopædias—the "Handbook of Special Pathology and Therapy," and the "Handbook of General Therapy"—consisting of articles written by the leading clinical teachers of Germany, and in which the chapters on croup, on epidemic meningitis, and on the diseases of the œsophagus were contributed by himself. He also, in association with his friend the late Professor von Pettenkofer, edited a "Handbook of Hygiene." Both of them did much to improve the health of the towns where they lived—Professor von Ziemssen especially by reorganising the Munich General Hospital and by founding homes for convalescents and for consumptive patients. Engrossed as he was in his literary work, in his enormous practice as a consultant, and in his duties as clinical lecturer he was nevertheless not unmindful of the general interests of the medical profession and on various occasions he took part in the meetings of the German Practitioners' Association.

METCALFE JOHNSON, M.R.C.S. ENG., L.S.A., J.P.,

SURGEON-MAJOR, MILITIA MEDICAL DEPARTMENT.

THE death of Mr. Metcalfe Johnson, which occurred on Jan. 18th, has removed the oldest member of the profession in Lancaster, who, although nearly 79 years of age, possessed a wonderfully bright intellect and genial humour. He was the son of a medical man and was born at Wisbech in 1823. Writing of his father he said: "He was an ardent student of dietetics, and I recollect a corn-mill which he had erected in his back-kitchen, where he ground wheat by a large hand-mill and had biscuits made from the proceeds which were so hard as to require a hammer to break them. On these and water he was living at the time of his death—perhaps not the best diet for a man attending cholera patients. He was a daring inventor and at the time of his death—which took place in 1836 from Asiatic cholera—he owned a piggery of over 1000 pigs from which he expected to supply salt pork to the navy by injecting into the arteries or veins of the animals strong acetic acid."

In 1838 young Johnson was apprenticed to Dr. Muriel of Ely and he went to Guy's Hospital in 1843. Amongst his fellow-students was Sir Samuel Wilks and the friendship thus begun lasted for the rest of his life. In 1845 he was given a free dressership, his house surgeon being Mr. Cock. He became qualified in 1846 as M.R.C.S. Eng. and L.S.A., and at once bought a practice in Lancaster where he settled down. Shortly afterwards he was appointed medical officer to the workhouse and later police surgeon. In 1852 he was given a commission as surgeon to the 1st Royal Lancashire Militia, subsequently promoted to be surgeon-major, and then put in medical charge of the regular troops stationed at the depôt. In Lancaster he formed the acquaintance of Richard Owen and they were on terms of intimate friendship for many years. He was at one time a prolific writer and articles by him appeared in THE LANCET entitled "Borderland, a Study of the Relation

of Pathology to Pauperism and Crime," and "Sane or Insane"; and in the *Medical Times and Gazette* he published papers on "Hedonism" and "Cerebral and Ganglionic Disorders of Mentation." He also did much good work with the microscope, his contributions being published in the Transactions of the Royal Microscopical Society. In 1872 he published a little book on invalid cookery which was favourably reviewed in THE LANCET of Sept 28th, 1872, p. 450.

He held advanced views on sanitation and on the compulsory notification and isolation of infectious diseases. When arguing in favour of treating habitual drunkards as lunatics he uses these forcible words: "The one great obstacle to the consideration of this subject may be said to be that bugbear of society known under the misnomer 'the liberty of the subject.' In what does it consist? Liberty to rob your neighbour's pocket by poor-rates; to destroy your family's peace of mind by eccentricity; to injure the public health by engendering syphilis, scrofula, rickets, and consumption; to cultivate epidemic disease in filthy and inhuman hovels; and to shorten the lives of the State's tax-producing subjects by dirt, drink, and debauchery."

Metcalfe Johnson was one of the old school—a gentleman by birth, by education, by instincts, always courteous, always kindly, and of conspicuous honesty and purity of purpose and life.

JOHN MANLEY, J.P., M.R.C.S. ENG., L.S.A.

ON Jan. 21st, after a cerebral seizure, Mr. John Manley died peacefully at his home, the Highfields, West Bromwich, in the seventy-seventh year of his age. Mr. Manley was an active member of the social and municipal life of the town in which he lived and by his strong personality and force of character he exercised an influence upon all with whom he was associated. Born at Tortola in the West Indies, the son of a Wesleyan missionary, on the death of his parents he was brought to England to be educated for the medical profession. He became a Licentiate of the Apothecaries' Society in 1853 and a Member of the Royal College of Surgeons of England in 1864, and entered into partnership with Dr. Abercrombie at West Bromwich, shortly afterwards acquiring the practice. Destined to figure prominently in public matters he commenced by becoming a member of the old Board of Commissioners, an office which he resigned to become medical officer of health. This position he filled with tact and vigour for a term of 17 years. As one of the founders of the Free Library he displayed a keen interest in the duties connected with that institution, at the time of his death being chairman of the committee. He was also one of the council of the Queen's College, and one of the representative governors of the University of Birmingham. Public life had as many attractions for him as professional prominence, although he was President of the Midland Medical Society and a member of the board of management of the district hospital. He was made a Justice of the Peace for the borough, his decisions and opinions being highly valued and respected. Mr. Manley married a daughter of the Rev. Benjamin Wood, who died in 1888, leaving one son, Dr. J. H. H. Manley, the present medical officer of health of West Bromwich. At Mr. Manley's request his remains were cremated at Manchester and the ashes interred in his wife's grave at West Bromwich Cemetery. As a man of wide culture and one who had strong convictions on matters of varied interests Mr. Manley will be long remembered and his memory regarded with esteem.

UNIVERSITY OF CAMBRIDGE.—Mr. W. E. Johnson, M.A., of King's College, has been appointed the first Sidgwick Lecturer in Moral Science under the new foundation in memory of the late Knightbridge Professor.—The Balfour Studentship, value £200 a year, in Animal Morphology, will be vacant at the end of the present term. Candidates are to apply to Mr. J. W. Clark, secretary to the managers, not later than Feb. 28th.—In recognition of his services to the University the degree of M.A. *honoris causâ* has been conferred on Dr. Walter Ernest Dixon, Assistant to the Downing Professor of Medicine.—Dr. A. Hill, Master of Downing College, has been appointed by the Council of the Senate a representative member of Girton College; and Dr. W. H. R. Rivers, of St. John's College, an additional member of the Special Board for Moral Science.

Medical News.

VACCINATION EXEMPTION CERTIFICATES.—At the Exeter Police-court on Jan. 23rd two applications for vaccination exemption certificates were refused.

THE Council of King's College, London, have elected the Rev. T. B. J. Parker, M.A., Worcester College, Oxford, and formerly Canon of Rockhampton, Queensland, to the office of Chaplain of King's College Hospital.

THE BRITISH MEDICAL BENEVOLENT FUND.—In accordance with the will of the late Mr. Robert Webb Watkins, F.R.C.S. Eng., of Towcester, his executors have paid a legacy of £100, duty free, to the British Medical Benevolent Fund.

THE SEWAGE OF TROWBRIDGE.—The Local Government inspector (Mr. R. H. Bicknell) held an inquiry on Jan. 24th into the application of the Trowbridge (Wiltshire) Urban District Council to borrow £35,960 for the purposes of sewage and sewage disposal.

AT the meeting of the Okehampton Borough Council held on Jan. 23rd it was reported that the Charity Commissioners would favourably consider an application for permission to apply the income of £80 per annum, derived from non-ecclesiastical charities, for the maintenance of a cottage hospital, provided that there was a prospect of a hospital being founded on a sound basis. The council decided to take steps to secure a suitable site for the proposed hospital.

THE seventh annual dinner of the Mirfield and District Medico-Chirurgical Society was held at the Masonic Hall, Mirfield, on Jan. 31st, Dr. John Stewart, the President, being in the chair. Covers were laid for 42. Amongst those present were Professor W. Japp Sinclair, Mr. B. G. A. Moynihan, Dr. E. O. Croft, Dr. A. Bronner, Mr. T. B. Fairclough, Dr. A. Anderson, Mr. T. W. Sproulle, Dr. L. J. Milne (honorary secretary), Dr. W. Brander, Mr. C. Clay, Mr. C. A. Mitchell, Mr. T. Oates Halliwell, Mr. P. MacGregor, Mr. G. W. K. Crosland, Mr. Bruzaud, Dr. T. A. Green, Mr. J. A. Erskine Stuart, Dr. N. H. Pike, Mr. R. H. Shaw, Dr. G. de J. Patterson, Mr. A. T. Griffiths, Mr. W. Shaw, Mr. G. D. Crowther, and Dr. J. F. Hodgson. The dinner was preceded by an address by Professor Sinclair on "Early Abortion in General Medical Practice." The next meeting will be held at Dewsbury Infirmary on Feb. 12th at 8.30 P.M.

RECEPTION AT THE BOVRIL FACTORIES.—In response to the invitation of the Bovril Company a very considerable number of medical men attended an inspection of the company's new factories on Jan. 23rd. The visitors were received by Viscount Duncannon, the chairman. The many processes concerned in the production of bovril were watched each in its own department with great interest. Demonstrations were also given of the way in which the albumin and the fibrin of the meat are retained in the extract. Not the least interesting section of the demonstration was that relating to the production of various rations and specialities supplied by the Bovril Company to the army, to the navy, and to exploring expeditions. Some interesting statistics were supplied bearing upon the enormous quantity of extract made and the amount of meat required. The machinery for the purpose is of an ingenious description and is specially designed in order that bovril may not be touched by the hand at any stage in the manufacture. The new premises are well lighted, well ventilated, and commodious. A large space on the roof is reserved for the employés for recreation purposes.

DEVONSHIRE HOSPITAL, BUXTON.—The annual meeting of the committee of management of the Devonshire Hospital, Buxton, Derbyshire, was held at the hospital on Jan. 11th, the Duke of Devonshire presiding. Before the ordinary business of the meeting commenced the Duke of Devonshire, speaking in the name of the committee, presented Mr. Joseph Taylor, the late secretary of the hospital, with a silver inkstand. Mr. Taylor, who had filled the office of secretary for 36 years and had in this capacity rendered most important services to the institution, was then elected a member of the committee of management. At a later stage of the business Mr. William Stevenson was elected secretary in succession to

Mr. Taylor. The annual report showed that during 1901 there were 3039 in-patients admitted, of whom 2645 were discharged as improved and only 258 as being no better. Dr. R. O. G. Bennet and Mr. Arthur Shipton, the former of whom has had 43 years', and the latter 24 years', service on the honorary medical staff, have resigned and have been appointed honorary consultants. The honorary medical staff has been increased by the election of Dr. John Braithwaite, Mr. T. B. Flint, Dr. George Lorimer, and Mr. Herbert Shipton. The Earl of Derby and Mr. Frank Drewry were unanimously elected respectively chairman and vice-chairman of the committee of management.

NEW SMALL-POX HOSPITAL.—At the meeting of the Plymouth (Devon) Rural District Council held on Jan. 24th it was decided to erect a small-pox hospital to contain 12 beds. The structure is to be of corrugated iron and the estimated cost is about £1000.

DR. JOHN SHIVES was called to the Bar at the Middle Temple on Jan. 27th.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Shop Hours Question.

A BILL dealing with this subject, framed on the lines of the report of the House of Lords Committee of last session, has been introduced in the House of Commons by Sir Charles Dilke. Instead of leaving the initiative to a two-thirds majority of the shopkeepers, as was proposed by Lord Avebury's Bill, this measure simply confers on local authorities the power to fix hours of closing for each day of the week. Provision is, of course, made for certain special classes of shops, such, for instance, as shops for the sale of drugs, and for public-houses. There is a clause which proposes to enact that no child under 14 years of age shall be employed in a shop, and another that no person shall be employed in a shop for more than 60 hours, including meal-times, in any one week. Several sanitary clauses appear in the Bill. One of these says that every shop shall be provided with sufficient and suitable accommodation in the way of sanitary conveniences, having regard to the number and sex of the persons employed.

Proposed Amendment of the Vaccination Acts.

Mr. BROADHURST, one of the Members for Leicester, has introduced a Bill to amend the Vaccination Acts.

The Midwives Bill.

Mr. GRIFFITH-BOSCAWEN has given notice that when the second reading of the Midwives Bill is moved he will move the rejection of the measure. Since the introduction of this Bill many petitions in its favour have been presented in the House of Commons.

Laundries and Factory Legislation.

When the Factory and Workshop Bill of last session was presented to Parliament by the Government it contained a clause bringing laundries within the scope of this class of legislation. Objection, however, was taken to the proposed treatment of conventual institutions and rather than risk the passage of the measure the Government withdrew the whole clause, Mr. RITCHIE intimating that in another session he would endeavour again to deal with the subject. Questioned on the matter at a recent sitting of the House of Lords the Prime Minister said that he hoped that the Government might find an opportunity for legislation during the present session, but he gave nothing in the nature of a definite pledge.

The Case of Dr. Rendall of Great Yarmouth.

On Monday, Feb. 3rd, the Home Secretary will be asked by Dr. Macnamara whether his attention has been called to the case before the General Medical Council of Dr. R. Rendall of Great Yarmouth, and whether he will take the opinion of the Law Officers of the Crown as to the legality of the proceedings.

HOUSE OF COMMONS.

THURSDAY, JAN. 23RD.

The Supply of Lymph.

Mr. BARTLEY asked the President of the Local Government Board whether private medical practitioners were now able to purchase Government lymph for those who were prepared to pay for vaccination or whether they had to obtain it as they could, chiefly from abroad.—Mr. LONG replied: The statutory duty of the Local Government Board as regards the supply of glycerinated calf lymph is limited to supplying it to public vaccinators for purposes of primary vaccination only, and their lymph establishment was formed with this object. Arrangements were, however, made to extend the supply so as to enable lymph to be provided for use by these officers in revaccinations and a very large amount has been supplied for this purpose. The organisation of the establishment is not such as would enable me to furnish lymph to private medical practitioners.—Mr. BARTLEY: May I ask the right hon. gentleman whether, in view of the present state of things, this lymph could not be supplied to private practitioners all over the country so that there might be a guarantee that the lymph used is really efficient?—Mr. LONG: It would be a very serious thing to suggest that lymph should be supplied gratis.—Mr. BARTLEY: I did not mean gratis.—Mr. LONG: Well, or sold to private practitioners. There is, however, no necessity for it, because I have ascertained that there is ample glycerinated lymph to be obtained outside that which is supplied by the Local Government Board.—Mr. BARTLEY: Is it the fact that it nearly all comes from abroad?—Mr. LONG: Some of it, no doubt, comes from Paris, but there are other sources of supply and I have no doubt that there is an abundant supply to be obtained in the market at the present time.—Mr. AMBROSE: Is it not the case that much of this lymph is inefficient?—Mr. LONG: I do not think that that can be said. I have reason to believe that it is most efficient. Perhaps the Local Government Board lymph is stronger, but I do not think that the other lymph is less efficient.

The Small-pox Epidemic.

Mr. BARTLEY asked the President of the Local Government Board whether he could state what progress had been made, especially in London, in vaccination and revaccination during the present epidemic of small-pox.—Mr. LONG replied: I am not at present in a position to give any estimate of the extra number of vaccinations and revaccinations performed during the present epidemic. The returns as to the vaccination of infants born in 1901 and as to revaccinations by public vaccinators will be received in due course, but there is no record of revaccinations performed by private medical practitioners. I have, however, reason to believe that there have been a very large number of vaccinations in the last few months in London and the neighbourhood. Since the beginning of September I have caused lymph to be issued to public vaccinators for 460,000 vaccinations—that is, about 300,000 in excess of the normal supply for this period. A very considerable portion of the excess has been issued to the metropolis.

Lead-Poisoning.

Mr. COGHILL asked the Home Secretary (1) whether he was aware that, on Dec. 19th, a coroner's jury found that Alfred Jagger, of No. 4, Back Williamson-buildings, Dewsbury-road, Leeds, a painter's labourer, died from the effects of lead-poisoning; and (2) whether, in view of the cases of lead-poisoning occurring amongst house-painters, he proposed this session to introduce any special legislation for their prevention.—Mr. RITCHIE replied that the facts were as stated in the first paragraph of the question, but the man was not a house-painter as his hon. friend would seem to imply. He was one of the workmen employed by a firm of manufacturers who were now, at the suggestion of the factory inspector, introducing improvements in their works. As regards the second paragraph he was of the same opinion as on March 5th last, when he said that he did not see his way to introducing the legislation suggested.

FRIDAY, JAN. 24TH.

Treatment of an Irish Harvester.

Mr. T. M. HEALY asked the Home Secretary if his attention had been called to the verdict of the coroner's jury in Dublin on Nov. 20th, in the case of a man named Moore who, returning from England to his home near Castlebar, was removed in a dying condition to Jervis-street Hospital, Dublin, on the arrival of the boat from Holyhead; whether he was aware that the guard, Mr. Keogh, swore that Moore was examined at Holyhead station by a doctor and refused admission to the Holyhead Hospital, and was brought across in the *Cambria*; whether he would ascertain who was responsible for refusing this man admission to Holyhead Hospital and compelling him while dangerously ill to undertake a rough sea journey; and whether he could state whether this hospital was a voluntary or a rate-aided institution.—Mr. RITCHIE replied: I am not aware of the verdict referred to or of the evidence given at the inquest, but from inquiries which I have made I find that Moore, who was one of about 500 harvesters who arrived at Holyhead on the same morning, was not refused admission to the Holyhead Hospital. That hospital is supported by voluntary contributions. If Moore had been taken there I am informed that he would have been admitted. As regards the sea journey, I understand that after remaining at the station and being attended by two medical men Moore, under medical advice, resumed his journey in the afternoon, a telegram being sent to Dublin for an ambulance to be ready on his arrival.

The Supply of Lymph.

Another question on the subject of the supply of lymph was addressed to Mr. LONG at this sitting and the right hon. gentleman repeated his reply that the organisation of the establishment of the Local Government Board was not such as to enable the department to supply lymph to private medical practitioners.—Mr. BARTLEY asked whether it was not possible to enlarge the establishment.—Mr. LONG replied that it had been very nearly doubled within the last few weeks and it was impossible at present to supply all the lymph required for primary vaccinations. To supply private medical practitioners would task the resources of the establishment beyond its powers. They were doing everything that they possibly could, but if they could add to the supply they would do so.

Researches on Cancer.

Mr. ARTHUR LEE asked the First Lord of the Treasury whether he would consider the desirability of advising the appointment of a royal commission on cancer on similar lines to that which had been appointed to inquire into tuberculosis.—Dr. FARQUHARSON asked the First Lord of the Treasury whether his attention had been directed to a scheme backed by the leaders of the medical profession for organised research on cancer and whether he would wait till this was formulated before committing himself to the costly and dilatory process of a royal commission.—Mr. BALFOUR replied: In answer to the last question I have to say that my attention has been called to the passage in a newspaper to which the hon. member refers. I have no other information as to the progress which this interesting experiment in organisation is making. I am sure I wish it all success. As regards the other question I entirely agree with my hon. friend as to the great importance of this subject of medical investigation, but I confess that my instinct is not in favour of attempting to deal with it by means of a royal commission. I do not think that the cases of cancer and tuberculosis are at all parallel. I will not develop my reasons for holding that opinion, but I think that there is no parallel, and I also think that the number of great scientific discoveries which have been made by royal commissions has been very limited, and that it would probably be better to leave this subject in the hands of the medical profession in all countries whose attention is, and has been for some

years past, directed towards it. Of course, if those competent to speak for the medical profession take a different view—they are more qualified to judge than I am—and if their views are brought before the Government they will receive full consideration.—MR. LEE: Will the right hon. gentleman consider the advisability of recommending a substantial grant of money for this inquiry in view of the fact that there is no fund available for the purpose?—MR. BALFOUR: The question which my hon. friend now asks raises a very large issue and I should not like to touch upon it at the present time. The amount of Government money given in this country for experiments is not very large, but whether it should be or should not be increased is a question which I cannot answer on the spur of the moment, it requires very careful consideration and consultation with my colleagues. I may add that there has been no application up to the present time for a grant in order to carry out this particular object.

MONDAY, JAN. 27TH.

The Sources of Vaccine Lymph.

MR. CORBIE GRANT asked the President of the Local Government Board (1) whether he could state the original sources of the vaccine lymph supplied by the Government; (2) whether any was derived from the inoculation of small-pox on animals; (3) whether a pure culture of the organism of vaccinia could be supplied in place of lymph; (4) whether the strength of the virus could be standardised so as to measure the dose administered; (5) whether the Government guaranteed the purity and innocuity of the lymph they supplied; and (6) whether the Government would take steps to secure the control and supervision of all lymph used in this country.—MR. LONG replied: The lymph supplied by the Government is derived from calves which have been vaccinated with lymph from other calves and is not obtained by inoculating animals with small-pox. The reply to the third and fourth questions is in the negative. The Government give no guarantee, but they use every effort to secure that their lymph shall be free from undesirable organisms. As at present advised I do not propose to ask for power to control the lymph supplied from other sources.

The Small-pox Epidemic

MR. JOSEPH A. PEASE asked the President of the Local Government Board whether he was aware that several cases of small-pox had been traced to an outbreak on the s.s. *Anglian* from Boston, docked in the Royal Albert Dock on Jan. 3rd last; whether the port sanitary authority thoroughly inspected the s.s. *Anglian*, and why the existence of small-pox on board was not discovered at once and notified, seeing that the dockers were engaged for two or three days dealing with the cargo before the disease was notified; and whether, with a view to prevent similar outbreaks, steps had been taken to insure that vessels arriving with disease on board should be placed in quarantine until a clean bill of health had been certified for by the port sanitary authority.—MR. LONG replied: I am aware of the facts referred to the first paragraph of the question. I am informed that on the arrival of the vessel at Gravesend the captain reported "all well" and "no sickness during the voyage." As the ship did not come from an infected port the persons on board were not medically examined and the vessel proceeded to dock where the cattlemen, after the cattle had been discharged, cleared from the ship. On the following day one of the cattlemen, feeling ill, presented himself at the Branch Seamen's Hospital where he was seen to be suffering from small-pox and he was conveyed to hospital. The port medical officer traced nearly all the persons who had left the ship, and in all five cases of small-pox have been dealt with. Vaccination was performed in the case of all persons on board willing to be vaccinated. The vessel has been disinfected and the names and addresses of the persons on board have been notified to the medical officers of health of the districts concerned. The system of quarantine is not in force in this country. The method adopted consists of medical inspection of ships coming from infected places or having illness on board, isolation of infected persons, and keeping under observation those brought into contact with them. The medical officer of the Port of London has taken steps to have all vessels from Boston and New York, where it is stated that small-pox is prevalent, medically inspected on arrival at Gravesend.

TUESDAY, JAN. 28TH.

The Royal Army Medical Corps.

DR. FARQUHARSON asked the Secretary of State for War whether he could inform the House when the last examination took place for commissions in the Royal Army Medical Corps, how many vacancies there were, and how many candidates competed for them; and whether, to encourage the flow of candidates from the medical schools, he would quickly produce the Royal Warrant founded on the recommendation of his committee?—MR. BRODRICK replied: The last examination was in February, 1901, when 22 appointments were offered and 10 candidates competed. The Royal Warrant will shortly be published.

Sanitation in Glasgow.

MR. THOMAS BAYLEY asked the Lord Advocate, as representing the Secretary for Scotland, whether his attention had been called to the fact that the provisions of the Glasgow Building Regulation Act, 1890, whereby it was enacted that all houses must be supplied with proper water sanitary accommodation, had not been carried out; could he state what steps the Corporation of Glasgow were taking to carry out this Act; and if, in the event of the corporation failing to carry out their own building regulation act, would the Government take any proceedings to insist on their so doing.—THE LORD ADVOCATE replied: The statute to which the hon. Member intends to refer is the Glasgow Police Amendment Act, 1890. Since it came into operation a great deal has been done at the instance of the Corporation of Glasgow to carry its provisions into effect. Further measures designed to secure so far as possible the desired result have been receiving the attention of the Local Government Board for Scotland and of the Glasgow corporation which has assured the Secretary for Scotland that the matter is receiving its earnest consideration. The last paragraph of the hon. member's question suggests an hypothesis and I am not prepared to pledge the Local Government Board in circumstances which have not yet arisen.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ARMSTRONG, HUGH, F.R.C.S. Eng., has been appointed Medical Officer of the Friendly Societies' Medical Institute, Tamworth, New South Wales.

BELL, R. H., M.A., M.B., M.C. Cantab., has been appointed Obstetric Tutor and Registrar to St. Thomas's Hospital, vice Mr. Fairbairn.

BROWNE, T. W. S., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Acts for the Chatham District.

CHOLMELEY, W. F., F.R.C.S., has been appointed Honorary Assistant Surgeon to the Wolverhampton General Hospital.

COLLINS, PATRICK JOHN, L.K.Q.C.P. Irel., L.R.C.S. Irel., of Woolabra, New South Wales, has been appointed a Justice of the Peace.

DICKMAN, H. G., M.B., M.S. Edin., has been appointed Medical Officer of Health for the Urban District of Diss, Norfolk.

EDWARDS, G. M., M.B., B.S. Cantab., has been appointed Certifying Surgeon under the Factory Acts for the Harrow District of Middlesex.

ELLIOT, S., M.D. Edin., has been appointed Certifying Surgeon under the Factory Acts for the West District of Caithness.

FAIRBAIRN, J. S., M.B. Oxon., F.R.C.S. Eng., M.R.C.P. Lond., has been appointed Assistant Obstetric Physician to St. Thomas's Hospital in the room of Dr. Walter Tate.

FISHER, CHARLES, M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the City of London Hospital for Diseases of the Chest, Victoria-park, London.

FLETCHER, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Ince Urban District Council.

GRAHAM, A. W., M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the District of Beaconsfield and Dairymple, Tasmania.

HAMILTON, J. A. G., M.B., L.M. Dubl., has been appointed Gynæcologist at the Adelaide Hospital, South Australia.

HARRIS, A. B., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health for the Loughton Urban District.

HEMSTED, R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Factory Surgeon for the Rural Districts of Whitchurch and Kingsclere, Hants.

HOPE, J. W., F.R.C.P. Edin., has been appointed Honorary Consultant to the Fremantle Public Hospital, Western Australia.

HURST, J. D., M.M. Melb., has been appointed Public Vaccinator at Laverton, Western Australia.

MACLENNAN, ALEX., M.B. and C.M., has been appointed an Extra Honorary Surgeon to the Royal Hospital for Sick Children.

MOFFIT, J. E. J., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Government Medical Officer and Vaccinator for Balranald.

PALMER, ARTHUR A., M.B., M.S. Edin., has been appointed a Member of the Administrative Board of the Civil Ambulance and Transport Brigade, New South Wales.

PENFOLD, THOMAS C., M.B., M.S. Edin., has been appointed Medical Officer of Health for the Hexham Rural District.

ROBB, W., M.B., M.S. Glasg., has been appointed Medical Officer of Health for the Irthlingborough Urban District.

SAYER, THOMAS, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Leeds Sanatorium for Consumption at Gateforth.

SCOTT, F. S., M.B., B.Ch., B.A.O. R.U.I., has been appointed Medical Officer to attend to the destitute poor and aborigines at Mitcham, South Australia.

SHAW, F. C. S., J.P., M.B. Syd., has been made an Appointed Member of the Licensing Court for the Licensing District of Emmaville, New South Wales.

SPROTT, GREGORY, M.B. Glasg., D.P.H., has been appointed an Honorary Medical Officer of the Hobart Hospital, Tasmania.

SPROULE, W., M.D. Edin., has been appointed Medical Officer at the Hospital, Wyalong, New South Wales.

STANLEY, G. P., M.B., Ch.M. Syd., has been appointed Medical Officer to the Friendly Societies' Medical Institute, Tamworth, New South Wales.

WOLFHAGEN, JOHN EDGAR, M.B., Ch.M. Edin., has been appointed a Member of the Court of Medical Examiners, Hobart, Tasmania.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident House Surgeon. Salary £100 per annum, with board, &c.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Surgical Officer. Salary £60 per annum, with board, washing, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with apartments, board, and attendance.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, single. Salary £100 per annum, with board and residence.

BRECON INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, and gas.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £80, with residence and maintenance.

BRISTOL GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, &c.

CAITHNESS COUNTY COUNCIL.—Medical Officer of Health. Salary £250 and £50 for travelling and other expenses.

COUNTY ASYLUM, Chester.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

DISTRICT INFIRMARY, Ashton-under-Lyne.—House Surgeon. Salary £120 a year and board and lodging.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £140, rising to £160, with board, laundry, and attendance.

EASINGTON UNION AND RURAL DISTRICT COUNCIL, Castle Eden, Durham.—Medical Officer, &c. Salary £150 per annum.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—Assistant House Surgeon (unmarried). Salary at rate of £50 per annum, with board, lodging, and washing.

FISHERTON ASYLUM, Salisbury.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

GENERAL HOSPITAL, Wolverhampton.—Assistant House Physician, also Assistant House Surgeon, both for six months, with honorarium at rate of £75 per annum, and board, lodging, and washing.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, with board and lodging.

LANCASHIRE COUNTY ASYLUM, Winwick, Newton-le-Willows.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

LINCOLN COUNTY HOSPITAL.—Junior Male House Surgeon for six months, eligible for re-election. Honorarium of £25 for each period of six months, with board, residence, and washing.

NEW SANATORIUM FOR PHTHISICAL PATIENTS OF THE POORER CLASSES, Blue Mountains, New South Wales.—Resident Medical Officer, unmarried. Salary £300 per annum, with board and residence.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—Assistant House Surgeon for six months. Board, apartments, and washing, and at least £25 as honorarium.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Surgeon to the Throat and Ear Department.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Resident House Surgeon. Salary £135 per annum, with board and residence.

QUEEN ADELAIDE'S DISPENSARY, Pollard-row, Bethnal Green-road, E.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, coal, gas, and attendance.

RADCLIFFE INFIRMARY, Oxford.—House Physician for six months. Salary at rate of £80 per annum, with board and lodging.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester-square.—Lecturer on Materia Medica in Relation to Dental Surgery.

ROYAL HALIFAX INFIRMARY.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with apartments, board, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Ventnor.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House Surgeon. Salary 63 guineas per annum.

ST. GEORGE'S RETREAT, Burgess-hill, Sussex.—Resident Assistant.

SEAMEN'S HOSPITAL SOCIETY (Branch Hospital, Royal Victoria and Albert Docks, E.).—House Surgeon. Salary £50 per annum, with board and residence.

SUFFOLK COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £130 per annum, rising to £150, with board, lodging, laundry, and attendance.

VICTORIA CHILDREN'S HOSPITAL, Park-street, Hull.—Lady House Surgeon. Salary £50 per annum, with board and laundry. Also a Lady Assistant House Surgeon. Salary £40 per annum, with board and laundry.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On Jan. 25th, at Faversham, Kent, the wife of Charles Macdonell Anderson, M.D. Edin., of a daughter.

COPEMAN.—On Jan. 21st, at the Parade, Cowes, I.W., the wife of Alfred Heathcote Copeman, M.A., M.D. Dub., M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

BIDWELL—FICHARDT.—On Jan. 2nd, at the Cathedral, Bloemfontein, South Africa, Charles Hugh Bidwell, M.R.C.S., L.R.C.P. Lond., to Maude Geraldine, daughter of the late C. A. Fichardt.

DAVIES—SCOTT.—On Jan. 22nd, at the Church of St. Michael, Teignmouth, S. Devon, S. H. Rattray Davies, M.R.C.S., L.R.C.P. Lond., to Mary Douglas, daughter of Lieutenant-Colonel Scott.

DEATHS.

NELSON.—On Dec. 28th, at 15, Bootham-terrace, York, George Dawson Nelson, M.D., M.R.C.S.E., L.S.A., formerly of Bridlington Quay, aged 79 years.

STOCKTON.—On Jan. 25th, at King's Sutton, near Banbury, Arnold Stockton, M.R.C.S., L.R.C.P. Lond., aged 29.

WEIR.—On Jan. 25th, at Guy's Hospital, from an accident, Arthur Nesham Weir, F.R.C.S., aged 32.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SCARLET FEVER AT A LAUNDRY.

NON COMPLIANCE with isolation laws at any time, and more so just now when the greatest precautions are being taken to prevent the spread of small-pox and other diseases, is an infringement of the Public Health Act deserving severe punishment. A case in point came before the Hailsham Petty Sessions on Jan. 22nd, when a man was summoned at the instance of His Majesty's inspector of factories for "unlawfully causing or allowing wearing apparel to be cleaned in a dwelling-house occupied by him while inmates of the said dwelling-house were suffering from scarlet fever, contrary to the Public Health Act." The defendant lived at Willingdon, where he carried on an extensive laundry business. His clients were almost solely residents in the neighbouring town of Eastbourne. On Nov. 23rd, 1901, Mr. A. Wheeler Taylor was called in from Eastbourne to see the children of the defendant, and on the following day he diagnosed them to be suffering from scarlet fever. His advice to have the patients removed to the sanatorium was not complied with. They were allowed to remain on the premises, and it was only in the first week of this year that a certificate was given that the children were free from infection. From Nov. 23rd onwards the laundry business was carried on as usual in a room adjoining the dwelling-house, but connected with it. There was the daily arrival of soiled linen and the daily exit of clean clothes. On Dec. 5th the premises were visited by Mr. Hugh Stott in his capacity as medical officer of health of East Sussex and as the medical officer of the Eastbourne rural district. The process of washing was being continued, clothes were being brought in and being sent home, and at the same time he found the children on the premises suffering from scarlet fever. The defendant told Mr. Stott that he would rather have his work stopped than remove his children to the isolation hospital at Polegate. But neither course was taken. Six days later—on Dec. 11th—a sanitary inspector saw the defendant who was about to deliver laundry work in Eastbourne. The defendant was not allowed to accomplish his errand until the "washing" had been disinfected at Polegate. An epidemic of scarlet fever might easily have been conveyed to Eastbourne by the ignorance and stupidity of the laundry proprietor. In the case of scarlet fever, although only in a mild form, isolation is the most effectual means of arresting its spread, and the general community have a right to be protected from the acts of such a person as the defendant. The case was an aggravated one, and the defendant, who had rendered himself liable to a fine of £10, was mulcted in a penalty of £2 2s., inclusive of costs.

PUBLIC VACCINATORS AND PRIVATE FEES.

To the Editors of THE LANCET.

SIRS,—I inclose a cutting from the *Nottingham Guardian* re-vaccination. You will see that Mr. J. Jeffares, who is public vaccinator for that district, has got a free advertisement at the hands of the Shardlow Guardians. It is stated that he vaccinates people privately for 2s. 6d., whereas his official pay is 6s. This appears to me to be touting for vaccination cases at 2s. 6d. Also what will the authorities say when they give him 6s. for a case done as a public vaccinator, and find that he announces that he can do private patients equally as well at 2s. 6d.?

Thinking this may be of interest to readers of THE LANCET who are public vaccinators.

I am, Sirs, yours truly,

Jan. 14th, 1902. 1902.

*** We do not read the paragraph in the *Nottingham Guardian* as our correspondent reads it, but we think it wrong for a public vaccinator to forego his lawful fees because his action may embarrass his brother officials.—ED. L.

CORONERS' INQUESTS.

A CORRESPONDENT informs us that recently he received the following letter from the coroner for his district:—

"DEAR DR. ——,—Will you kindly in future as soon as possible notify to me all sudden deaths similar to the Revd. ——, in order to save trouble to the relatives by so doing you oblige,

"Faithfully yours,

"—— ——."

Our correspondent adds: "The case in point was that of an old gentleman, aged 74 years, who died in five hours from apoplexy. I was his regular attendant, had been attending him up to his death, and was with him during his last illness. The coroner himself with a policeman marched up to the house and, naturally, disturbed the family. Is there any authority for this order? ..... the coroner is a medical man in practice in the city." Presuming that our correspondent gave the usual medical certificate of the cause of death, as doubtless he did, we think it to have been unnecessary, to say the least, for the coroner and his attendant policeman to go to the residence of the deceased. As for the coroner's request that in

future all such deaths should be notified to him, he has a perfect right to ask that such procedure may be followed, but we do not think that he has any right to demand it in virtue of his office.

MEDICAL PRACTITIONERS AND THE SALE OF POISONS.

To the Editors of THE LANCET.

SIRS,—In your annotation regarding Medical Practitioners and the Sale of Poisons in THE LANCET of Jan. 4th, p. 44, you fall into several errors. In the first place you say "the Act forbids a medical man or anyone else not registered under the Pharmacy Act to keep a shop or to supply scheduled poisons," &c. The Act of 1868 certainly did so; the first clause of the Act forbade anyone but a "pharmaceutical chemist or a chemist and druggist within the meaning of the Act" to do so. This, however, was repealed by the Pharmacy Amendment Act of 1869 which distinctly permitted medical practitioners to keep open shop and to sell scheduled poisons. The first clause of that Act reads:—

> "Nothing contained in the first 15 sections of the recited Act (1868) shall affect any person who has been registered as a legally qualified medical practitioner before the passing of this Act; and the said clauses shall not apply to any person who may hereafter be registered as a legally qualified practitioner, and who in order to obtain his diploma for such registration shall have passed an examination in pharmacy," &c.

Then it is not in virtue of Section 3 of the Amendment Act that a medical practitioner may sell or deliver medicines containing scheduled poisons to his patients: it is in virtue of Section 1, which I have just quoted. Section 17 of the Act of 1868 required all scheduled poisons to be labeled with the name of the poison, the word "poison," and the name and address of the seller, &c. The third section of the Amendment Act of 1869 which you quote is merely a regulation which makes it unnecessary to label a scheduled poison with the word "poison" when it is contained in a mixture dispensed to prescription. The Act of 1869 placed pharmaceutical chemists and registered medical practitioners on the same footing as regards keeping open shop and the sale of scheduled poisons, and they have remained so until the recent decision of the General Medical Council. Both have been in the habit of keeping unqualified assistants and apprentices. Should an unqualified assistant break the law by selling a scheduled poison he is fined, but in the case of a pharmaceutical chemist the punishment stops short with the assistant. But should the doctor's unqualified assistant break the law then the doctor must be also punished by worse than fine or imprisonment—he must have his means of livelihood taken from him. Surely a crime which merits so severe a punishment in the one case is deserving of some punishment in the other.

I am, Sirs, yours faithfully,

Jan. 11th, 1902. M.D.

*** We believe our view of the effect of the Pharmacy Acts to be correct, the matter being regulated by the sections upon which we laid stress as well as by that to which our correspondent refers. With regard to the question raised at the end of his letter, it was clearly the opinion of the General Medical Council that the medical practitioner should not employ others to break the law and then escape all responsibility in the event of their detection.—ED. L.

TAP'S PATENT FUMIGATOR.

THE feature of this simple little apparatus is the way in which the supply of the disinfectant is regulated. The apparatus consists of a spirit lamp situated over which is a metal evaporator. Just above the evaporator is a cone-shaped container with its apex downwards. By means of a screw at the top of the container a metal rod moves up or down inside the apex of the hollow cone, so that the dropping of the disinfectant may be easily controlled. It is the same system as is employed in the stylographic pen, by which the flow of ink is regulated. Almost any kind of disinfectant fluid can be used in the apparatus, or anything in fact that is capable of being vapourised. The fumigator is supplied in a portable form by Messrs. S. Maw Son, and Sons, 7 to 12, Aldersgate-street, London, E.C.

IMMUNITY FROM SMALL-POX.

To the Editors of THE LANCET.

SIRS,—In reference to your annotation last week (p. 248), I had variola about 20 years since. I had been previously well vaccinated. I again unsuccessfully vaccinated myself on Jan. 13th.

I am, Sirs, yours faithfully,

Jan. 27th, 1902. SURGEON.

Cumpestres.—A must make very sure of his ground before he does anything, for we suspect that he has been misinformed. But if he is certain, from trustworthy and undeniable evidence, that B has openly stated an intention of ousting him he is at liberty to cease to have professional or friendly relations with B. Medical men are constantly placed in positions of rivalry towards each other, but there is no reason why competition should not be conducted in an honourable manner.

P.—The eggs should be placed in the water glass on the day on which they are laid, and left there until they are required.

M.A. Oxon.—Many laboratory boys are asked to discharge more arduous and delicate scientific duties.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (8th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (3rd).—SOCIETY OF ARTS.—8 P.M. Dr. S. Rideal: The Purification and Sterilisation of Water. (Cantor Lecture.)

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—4.30 P.M. Cases and Specimens will be shown by Mr. A. Cheatle, Mr. Lake, Mr. Lawrence, Dr. Macnaughton-Jones, Dr. Pegler, Dr. Tilley, Mr. Whitehead, Mr. Yearsley, Dr. Milligan, and Dr. J. Horne. Presidential Address: Prof. U. Pritchard.

TUESDAY (4th).—PATHOLOGICAL SOCIETY OF LONDON (King's College).—8 P.M. Laboratory Meeting. Dr. N. Dalton: Hyaline Fragmental Bodies in a Syphilitic Patch.—Dr. Whitfield: On Pappendium's Staining Method.—Dr. Hewlett: The Absorption of Antitoxin by the Stomach and Rectum.—Dr. Daniels: Avian Filariæ from Guiana.—Mr. Cheatle: Healing of Aseptic Fractures.—Dr. Hewlett (for Prof. Simpson): Preparations of Plague Bacilli from Man and Animals.

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Annual Meeting. Specimens will be shown by Dr. A. Routh, Dr. W. Duncan, Mr. Bland-Sutton and others. The President (Dr. Horrocks) will deliver the Annual Address.

THURSDAY (6th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Dr. W. Ewart: Scleroderma with Raynaud's Disease.—Dr. S. P. Phillips: Epistaxis in Rheumatism.

ROENTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper;—Mr. E. W. H. Shenton: A System of Radiography.

NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Meeting. Annual Address:—Mr. H. W. Page (President): Concussion of the Brain in some of its Surgical Aspects.

FRIDAY (7th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M. Discussion on the Treatment of Inoperable Cancer. Mr. A. Cooper, Mr. S. Boyd, Mr. Butlin, and Mr. H. Morris will speak.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Dr. R. E. Scholefield: Some Cases of Feigned or Functional Disease.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Clinical Evening.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. L. Lack, Mr. R. Lake, Dr. F. W. Bennett, Mr. A. Thorne, Dr. L. H. Pegler, Mr. Waggett, Dr. H. J. Davis, and Dr. Donelan.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Surgical Emergencies.
ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

TUESDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Robinson: Uterine Hæmorrhage.
ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: The Cell, its means of Offence and Defence. Immunity.
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ferrier: Varieties of Gait

WEDNESDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Lantern Demonstration on Hernia.
CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—8 P.M. Dr. D. Grant: The Examination and Diseases of the Accessory Sinuses of the Nose.

THURSDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.
CHARING-CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Demonstration of Medical Cases. (Post-Graduate Course.)
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Colman: Demonstration of Selected Cases.
MEDICAL OFFICERS OF SCHOOLS ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—4 P.M. General Meeting. Discussion on the Ventilation of School Buildings, with special reference to its application to existing buildings, opened by Mr. W. N. Shaw. Special appliances connected with ventilation will be exhibited.

FRIDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke: Clinique. (Eye.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Surgical Emergencies.
ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. E. Ray Lankester: The New Mammal from Central Africa and other Giraffe-like Animals.
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. J. Taylor: Epilepsy.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1901, which was completed with the issue of Dec. 28th, and the Title-page to the Volume, were given in THE LANCET of Jan 4th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 30th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 24	29·50	S.W.	...	55	48	43	41	44	Cloudy
,, 25	29·15	WNW	0.12	63	40	33	33	34	Cloudy
,, 26	29 65	WNW	..	68	41	34	33	34	Cloudy
,, 27	29·43	S.W.	0·20	54	49	34	40	41	Overcast
,, 28	29 20	S.W.	0·04	63	47	40	40	41	Cloudy
,, 29	29 94	N.	0·01	62	40	31	31	32	Fine
,, 30	30·37	N.	...	49	36	30	Fzn.	31	Cloudy

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